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MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXIX. No. 17. {
WEEKLY.

BALTIMORE, MAY 22, 1896.

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BALTIMORE, MAY 22, 1896.

An Invaluable Publication.

[Editorial in New Orleans Daily States.]

The Manufacturers' Record, published in Baltimore, with Mr. Richard H. Edmonds as editor-in-chief and an able corps of assistants, prominent among whom is Mr. Thomas P. Grasty, has done more than any other hundred publications combined to bring the advantages offered by the Southern States to the favorable notice of manufacturers and capitalists.

The management is now preparing a special edition, which will be devoted to Louisiana generally and the city of New Orleans especially. A large edition will be printed and distributed throughout every section of the Union, mainly the East, North and West, while many copies will be sent to Europe.

In the list of contents, which it is proposed shall in part make up the literary feature of the edition, which is designed to enlighten the minds of capitalists, manufacturers, men of enterprise and homeseekers concerning this State and city, will be special articles by Worthington C. Ford, chief of the United States Bureau of Statistics at Washington; E. L. Corbett, the eminent engineer; "The Future of the Cotton Trade of New Orleans," by H. G. Hester, secretary New Orleans Cotton Exchange; "Probable Results of the Various New Conditions at New Orleans," by Richard H. Edmonds, editor of the Manufacturers' Record; "Is New Orleans a Healthy City?" by Dr. Joseph Holt, late president board of health; "Financial Conditions at New Orleans," by Col. Thos. C. Herndon, manager New Orleans Clearing Association; "The New Belt Railroad and the Port Chalmette Improvements," by Albert Phenix; "The Illinois Central Railroad, and Its Relation to Louisiana's Progress," by Capt. J. F. Merry; "Educational Advantages of New Orleans," by Col. Wm. Preston Johnston, president of Tulane University; "The State of Louisiana as a Homeseeker's Paradise," by Capt. Harry Allen, president Louisiana Immigration Association; "Timber Resources of the Region Around New Orleans," by Mr. Wm. G. Boerman, editor Lumber Trade Journal; "Advantages Combined at New Orleans for the Loca-

tion of Cotton Mills, Furniture Factories and Other Industries," by Thomas P. Grasty, of the Manufacturers' Record staff. In addition to the foregoing, there will be contributions on New Orleans as a winter resort, and on sugar, rice and other Louisiana interests.

The Decline in Exports.

Commenting on the fact that the value of the exports from nearly all United States ports for 1895 was less than for 1880, the New York World says:

These figures, showing that heavy losses in the export trade of the Atlantic and Gulf ports are the rule of the last fifteen years, with gains the rare exception, present what is now really the most serious problem in American politics.

What do the protectionists propose? The life of these great coast cities depends on foreign trade. As they increase in population they must increase in misery, in disorder and in crime, if restricted in the means of supporting their people. Their profits must always depend finally on the amount of the export business they handle, for that is the measure of the country's ability to pay them profits on imports.

After all these years of trade restriction, with a constantly diminishing export business for the great coast cities, is restriction to be renewed? Is the pauper population of the cities, already too large, to be indefinitely increased? Are we to be kept on a dwindling instead of an increasing scale of trade? Is this great and growing country to be bound in the swathing-bands of the "home-market" monopolists?

The World must find some other cause for the decrease in the value of our exports than a protective tariff. Did it ever occur to that paper that possibly the decrease was more in the price than in the aggregate quantity of goods? In grain there was a falling off, our wheat shipments having reached the maximum in 1880 and 1881, due in part to our enormous crops in those years and to the great shortage in Europe, but the chief factor in the decline in values was the difference in price. Of wheat and flour combined, the exports for the fiscal year ended June 30, 1880, were 183,000,000 bushels, valued at \$225,800,000, or an average of \$1.24 a bushel; in 1895 the exports of the two were 152,400,000 bushels, valued at \$95,400,000, or an average of sixty-two cents a bushel. Thus, while the quantity of wheat and flour fell off 31,000,000 bushels, or less than 20 per cent., the decrease in value was \$130,000,000, or nearly 60 per cent. Of course, a protective tariff was responsible for this, according to the reasoning of the New York World.

Turning to cotton, we find that the exports of 1880 were 1,816,000,480 pounds, worth \$209,852,005; while for 1895 our cotton exports aggregated 3,502,171,000 pounds, worth \$202,118,351. In other words, we almost exactly doubled our cotton exports in quantity, only to charge Europe \$7,700,000 less than for one-half the quantity in 1880. Does the World also attribute this doubling of the quantity of our cotton exports and the decrease in the total value to a protective tariff?

Is it not possible to secure honesty in discussions of economic questions,

in place of willful misrepresentation? Why parade dishonest statistics, whether they be used for free trade or for protection? The American people want the truth, not false arguments, based on false premises.

A Surprising Result.

The Manufacturers' Record, of Baltimore, has made an investigation as to the sentiments of the manufacturers of this country, with a result that will be somewhat surprising to many people who suppose that all manufacturers are strenuous for protection because some of them are so. The Manufacturers' Record, which has itself a leaning toward protection, asked a number of manufacturers in different parts of the country what they deemed essential to the re-establishment of prosperity in the United States.

Of the 178 replies received to this very important question, only sixty-five, or a little more than one-third, asked for an increase of tariff rates, and many of these professed to want only a tariff that will yield sufficient revenue. One hundred and five answered that the thing necessary was the cessation of the silver agitation, or its equivalent, the definitive triumph of sound money. Eight asked for the free coinage of silver, one of them being in Major McKinley's town, Canton, Ohio, and one in Buffalo. Thirty wished the tariff left alone or kept out of politics.

The surprising feature of these answers is that there should be so little demand for more protection. This has never been unanimous among manufacturers, for there have always been a considerable number who recognized the fact that the tariff did not help them, whatever it might do for those in other branches of business. Since Major McKinley inaugurated the system of selling protection to those who supply corruption funds, the number has, perhaps, increased. Still, no such result could have followed such an inquiry made two or three years ago. It must be accounted for mainly by the consequences that have followed even so imperfect a measure of tariff reduction as the act of 1894. The immense increase of our foreign market for manufactured goods has opened the eyes of many manufacturers to the possibilities of trade extension abroad. This educational feature of the existing law has wrought a great change of sentiment among many of our manufacturers. The combines that have cornered the home market, and sell abroad at reduced prices, are still insisting on a higher tariff, but the result of the inquiry made by the Manufacturers' Record shows that a majority of the manufacturers have no complaint to make of the act of 1894. It has conquered a peace with them by the extension of their markets.—Louisville Courier-Journal.

Such is the Courier-Journal's interpretation of these letters. We published them as news, and as news the free-trade advocate, the believer in free silver, the protectionist and the gold man all had the same opportunity to present their views. In this case the Manufacturers' Record was seeking to get the sentiment of leading manufacturers, without any regard to its own views on any of these questions. There are many important lessons to be drawn from these letters—one, the general criticism of Congress, which shows that there is a widespread hostility to existing conditions, that may have in it the seeds of some danger to our government. The Courier-Journal interprets these letters as favorable to its free-trade proclivities; others would put a directly opposite interpretation upon them.

A Change for the Better.

One of the conservative communities of the South which promises to undergo a remarkable change in the way of revival of business and industrial interests is Charleston, S. C. This may be attributed to several reasons, among them the work of the commercial organizations, the deepening of the channel leading into the Charleston harbor, the efforts of the younger business element of the city, and all these aided by the persistent, energetic and tireless work of the News and Courier. The people are making a concerted effort to secure additional railroad facilities, and are also endeavoring to obtain cheaper freight rates to and from Charleston. Realizing the fact that their city possesses many advantages for manufacturing, they are giving close attention to industrial matters. Heretofore manufacturing has been confined largely to a few articles, but there are many reasons why the metropolis of South Carolina should become a very active centre of diversified industries. It has a very large trade territory; it promises to become more and more a large shipping point, and the manufacturer has excellent opportunity to obtain raw material, cheap fuel and the choice of water or land transportation. It is very encouraging to see the efforts which the business men of Charleston are making to improve their city and increase its importance as a business and manufacturing centre.

Stimulated by an earnest desire to develop its manufacturing interests, Charleston, by public vote, has almost unanimously passed an ordinance exempting new manufacturing enterprises from taxation for five years, excepting the levy for the school fund. It is a wise step which the people of that city have taken, indicating as it does a determination to develop the industrial interests so essential to the prosperity of every community. Commerce alone—and upon commerce and a few leading industries Charleston has mainly depended—will not build great and prosperous cities in these days. There must be a diversification of industrial interests, and Charleston is wise in looking towards the development of its manufactures.

Vigorous Old Age.

The Baltimore Sun makes the pleasant announcement that it is fifty-nine years old this month. Under the policy which has been carried out by the Messrs. Abell, the Sun has acquired an enviable reputation, not only in Baltimore and Maryland, but throughout the country. Its managers have made it a policy to eliminate everything from its columns which would be in the least way objectionable to its perusal in the family, and it has made a record in this respect alone which might be followed by many other newspapers of today. In spite of its advanced age, the Sun is apparently growing younger, instead of older.

Coal Production in 1895.

The annual report of Mr. E. W. Parker, statistician of the United States Geological Survey, of coal production in the United States during the calendar year 1895, shows that the total output from all mines was 171,804,742 long tons, or 192,421,311 short tons, having a total value at the mines of \$197,572,477. This was an increase over the production in 1894 of about 19,350,000 long tons, or nearly 22,000,000 short tons, and an increase in value of about \$11,500,000.

The output of anthracite coal in Pennsylvania increased from 46,378,144 long tons in 1894 to 51,785,122 long tons in 1895, a gain of over 5,400,000 long tons. The value increased only about \$3,500,000, from \$78,488,063 to \$82,019,272, showing that anthracite coal was cheaper in 1895 than in 1894.

The product of bituminous coal increased from 118,820,405 short tons in 1894 to 134,421,974 short tons in 1895, a gain of over 15,500,000 tons. The value increased about \$8,000,000.

There was an increased production in all but five of the twenty-nine coal-producing States, Alabama and Pennsylvania showing gains of more than 25 per cent.—Alabama increasing from 4,397,178 short tons in 1894 to 5,679,775 tons in 1895, with a valuation of \$5,348,795, and Pennsylvania from 39,912,463 short tons to 50,017,446 short tons, valued at \$35,902,678.

The production of coal and coke by States for 1893, 1894 and 1895, as compiled from the Manual of Coal Statistics, 1896, was as follows:

| COAL. | | | |
|---------------------|------------|------------|------------|
| | 1893. | 1894. | 1895. |
| Alabama | 5,730,472 | 4,381,295 | 5,705,713 |
| Arkansas | 786,258 | 910,671 | |
| Georgia | 372,740 | 355,141 | 261,074 |
| Kentucky | 2,302,251 | 2,976,846 | 3,206,399 |
| Maryland | 3,727,079 | 3,474,220 | 3,897,040 |
| N. Carolina | 17,000 | 12,800 | 20,000 |
| Tennessee | 1,902,258 | 2,479,187 | 2,319,720 |
| Texas | 302,206 | 420,802 | 458,629 |
| Virginia | 820,339 | 1,037,002 | 1,461,365 |
| W. Virginia | 11,021,302 | 10,860,936 | 11,063,471 |
| | 26,305,600 | 26,784,577 | 29,304,052 |

| COKE. | | | |
|---------------------|-----------|-----------|-----------|
| | 1893. | 1894. | 1895. |
| Alabama | 1,064,852 | 924,002 | 1,600,979 |
| Georgia | 106,702 | 102,484 | 60,212 |
| Kentucky | 46,148 | 27,715 | 42,500 |
| Tennessee | 226,980 | 328,843 | 371,747 |
| Virginia | 46,200 | 58,400 | 172,907 |
| W. Virginia | 1,060,900 | 1,132,845 | 1,204,654 |
| | 2,581,791 | 2,574,489 | 3,453,002 |

Plenty of Room for Others.

The report in the Manufacturers' Record, to the effect that a bicycle factory was to be located at Atlanta, has attracted much comment not only in the South, but in other sections of the country. There is no reason why a dozen such companies should not begin operations in the South. Of the hundreds of thousands of wheels which have been sold in this market, but few of them have been manufactured further south than Hagerstown, Md., where a bicycle plant, established within only a short period, is now doing an enormous business, employing about 1700 hands. Birmingham, Augusta, Columbia, Charlotte and many other cities might be mentioned where bicycle works could be started, and if operated on a business basis would prove profitable. The same might be said of plants for manufacturing hats, furniture, small "Yankee notions," shoes and vehicles of different kinds. The few industries under these heads which are now being operated in the South, as far as we are aware, are not only on a sound basis, but are earning a large profit. Practically all the small "notions" which Southern people use are purchased from the North, likewise hats and shoes, although there is no reason why a large proportion of

these goods should not be made at home.

Wonderful Dredging Machine.

Among the revolutionary methods that have come into existence of late years, by which to do old things in new ways, few, if any, will have a greater influence upon the advancement of the material interests of the South, and, for that matter, of the country at large, than the new system of dredging, fully described elsewhere in this issue. Referring to the dredge, the Engineering News says:

It far surpasses in its capacity any dredging machine ever constructed, and it is without doubt able to handle material at a lower cost than any excavating machine of any type ever built. The most powerful dredges ever built hitherto have been able to excavate in a day only about as much as this machine handles in an hour, according to its record in the recent government tests.

Of course, it is true that this enormous output is made in the easily-moved alluvium of the Mississippi river bed, and it is evident enough that the dredge would be unsuited for any material where boulders occur of a size sufficient to wreck the cutters.

On the other hand, it appears to be clear that with a different method of operation, the dredge could handle a far larger quantity of material per hour in the Mississippi channel than was recorded in the government tests. For a dredge which can advance so rapidly in making its cut, the old time system of spud support, or even winding up on a headline attached to a pile, is too slow. The dredge should be held by neither spuds or lines, but should be free to move either by its own steam or by tugs alongside. Handling this great dredge on this system, and discharging the excavated material through a short length of pipe down stream, it seems reasonable to expect that it would attain a regular output still more marvellous than that already recorded.

As an example of what such a dredge should be able to do on the Mississippi, we may take Mr. Henry Flad's estimate, in our last issue, that the amount of excavation required to keep a channel open from St. Louis to Vicksburg in a low-water year is in round numbers about 3,000,000 cubic yards. The average output of the dredge "Beta" in the government tests was not far from 6000 cubic yards per hour. Allowing ten hours' work per day, this would give an output of 60,000 cubic yards per day, and if a single dredge could be worked daily at this rate, with no delays from any cause, the entire amount of 3,000,000 cubic yards could be handled in fifty days.

These figures are almost incredible, but they are based on work actually done. They show something of the possibilities opened up for deepening rivers and harbors and constructing canals at a cost that must be very small as compared with similar work in the past.

New Orleans is regaining its tobacco export business, and six vessels are now loading at the Port Chalmette wharves with an aggregate of 6000 hogsheads for Bremen.

More Answers to the Question, "What is Needed to Secure Greater Industrial Prosperity?"

John H. Wright, attorney and counselor at law, Roanoke, Va.: "Much depends upon a proper solution of this question. It cannot be denied that for two or three years we have had a season of unrest and doubt, of great business depression, and a manifest anxiety as to the immediate future. The high-tariff policy of the republican party has so stimulated production in this country, particularly in the protected commodities, that the inevitable result, congested markets, followed. Trusts and combines were formed in almost all departments of trade; labor strikes, enforced suspension of mills and factories, with want staring thousands of laborers in the face, stirred up a spirit of anarchy, necessitating a display of force to prevent great destruc-

tion of property. A depleted treasury, with unprecedented appropriations by the preceding Congress, confronted the present administration, when for the second time it came into power. In the meantime the advocates of unlimited free-silver coinage had created quite a commotion, and led astray many people who fancied existing conditions were due to a lack of sufficient currency to supply the demands of trade. In times of great business depression almost any policy which promises relief will find numerous advocates, either with or without reason. The apparently growing sentiment in favor of free-silver coinage, and consequent adoption of the single silver standard in this country, created a feeling of distrust which has induced the foreign holders of American securities to undertake to realize upon them while they can do so in a currency equal to that which they invested in them. A large part of the outflow of gold may be attributed to this, as there was not sufficient exchange to meet the demand. In order to maintain the credit of the government, the gold reserve must be replenished from time to time, and this can only be done by a sale of bonds, which increases the public debt, and proportionately the burden of taxation. While under our present financial system a United States silver dollar will buy just as much of the necessities of life as a gold dollar, it is nevertheless true that gold has practically gone out of circulation. Those who hold it no doubt think it a good thing to hold, for the reason that if we adopt the policy of legal-tender free-silver coinage, gold will surely command a high premium. The one most essential thing to insure material and commercial prosperity is to have the assurance of a stable and not a fluctuating currency. Doubt is a sure precursor of disaster, and the doubt now existing as to the future financial policy of the government—a doubt which destroys confidence—is the fruitful cause of the existing material depression. There is no lack of money to meet all the demands of trade, for the volume of money is as great as it ever was per capita, but few people who control money are willing, under existing conditions, to invest it. No sensible man would be willing to invest a dollar, worth 100 cents today, to be repaid a year hence in a dollar, so called, worth only fifty cents. As a consequence, the money is not in circulation. Gold is being hoarded in banks and by individuals, to go out entirely when legal-tender free silver comes in. What is most needed, then, to restore prosperity is not a flood of free silver, but a restoration of confidence in the stability of our currency and the assurance that the people of these United States, when they sell anything, whether it be labor or the product of farm or factory, shall receive in return dollars as good as those paid to any other people in the world for similar articles. We do not want to be reduced to the level of the petty republics of Central and South America, but do desire to maintain our former high standard of business integrity. Let us maintain the high financial standards of other first-class people, and with our unrivaled resources and unsurpassed laboring people in every grade, we can command the markets of the world for our products and reach a prosperity unapproached in our past history."

T. C. Snyder, president and manager Canton Steel Roofing Co., Canton, Ohio: "Having received your request for views upon the broad question of 'What is most needed to bring about greater prosperity for the general industrial interests of the entire country,' I give the following, reasoning from cause to effect from a business man's standpoint, believing it the only practical solution of the question: 'How to have employment for all the people' is now a leading problem in nearly all nations. When all can have steady employment, all can make a comfortable living. The best policy to acquire such a condition in America is to have as nearly as possible all the labor required to produce all goods needed furnished by the people of the United States, and as little as possible by other countries, and by this means prevent a decrease in the volume of money in our country, by keeping it at home. This would stimulate circulation of money among the masses; to buy the product of foreign labor and send our money abroad displaces labor, money and the circulation of it in our own country. Keep the balance of trade in our favor, and we will thrive; to accomplish this the requisite means are what are called 'protection' and 'reciprocity.' To continue the balance of trade against us would, in time, exhaust the money in this country and continue the necessity of issuing bonds to get the money back to this country, by mortgaging the future and encumbering rising generations. Public and private credit would be destroyed, and the age of coonskins, bronze and leather as money would be reinstated. The most available means for marketing surplus American products could be acquired by providing a system and installing reciprocity with other countries, wherever possible, to such extent as would be to the interest of our own country's people. For example, a firm in Ohio, during the reign of the reciprocity arrangement with Cuba, when the duty there was \$1 per barrel, sold to that country \$350,000 worth of flour annually. Since reciprocity with that country ceased, the same firm has been able to sell only \$50,000 worth of flour in Cuba, because when reciprocity was set aside, the previous Spanish duty of \$4.80 per barrel was reinstated. Doubtless this is one of the reasons why the Cubans have become so desirous for national independence. Since doing away with reciprocity, it has been noticed that the Ohio flouring mills mentioned and the great flouring mills of Minneapolis have been hunting a market and supplying flour more frequently in the smaller towns and cities throughout the United States, the effect of which has been to embarrass, bankrupt and close many local grist mills. This has been injurious to the farmers also, who previously found the best market and best prices for their wheat at the local mills. Regardless of volume of business, gold, silver and paper money should always be used as the circulating medium, and governed by a policy that will at all times and under all circumstances keep each at parity with the others. The circulating of money must not be further menaced by the hoarding of money in the great money centres, and the issuing of circulars from such points to bankers throughout the entire country, cautioning and requesting them to 'draw in' at least one-half of their loans and discounts.' Such has unjustifiably been done for the manifest purpose of forcing up interest rates and the purchasing power of a dollar. Good financial policy by the government is absolutely essential to a restoration of public confidence, without which the natural industry and business energy of the American people cannot be restored. Running water is always purer and less liable to become stagnant than that which is practically motionless, and idleness begets both evil and suffering."

Foos Gas Engine Co., Springfield, Ohio: "We answer: Kill the free-coining idea of 16 to 1; collect sufficient revenue to meet the wants of the government, and the industrial interests of the entire country will prosper."

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BIG AID TO COMMERCE.

Revolution in Deepening Shallow Rivers and Cutting Canals, and Its Relation to the South and to the Nicaraguan Canal.

Some months ago the Manufacturers' Record gave a detailed description of the great dredge built by the Maryland Steel Co. at Sparrow's Point for Mr. L. W. Bates, of Chicago, to be used in dredging operations on the Mississippi river. A correspondent of the Chicago Times-Herald, writing from Washington, gives some facts about dredging operations gathered from Mr. Bates, and the relations which improved dredging machines bear to the possible low cost of constructing the Nicaraguan canal. He says:

"An engineering revolution of inestimable value to mankind has just been effected by Mr. L. W. Bates, of Chicago. What he has done may be described in a few words, but every word is pregnant of important results to commerce, transportation, the spread of civilization and the conquest of the earth by restless man.

"He has solved the problem of deepening shallow rivers so that innumerable streams now unused by commerce may become highways of cheap transportation. He has solved the problem of canal-cutting at a cost low enough to insure the commercial success of the Nicaraguan project and ultimately of many similar plans for uniting sea with sea. He has assured the permanence of a navigable channel in the Mississippi river from St. Louis to the Gulf of Mexico without the expenditure of millions of money. He has prepared the way for the opening of a water route of incalculable value from Chicago to the sea through the drainage canal, the Illinois river and the Mississippi.

"All this has been done by the process of combination, adaptation and development peculiar to the present generation of workers and builders in the city of Chicago. It is an outgrowth of the marvelous achievements which made the drainage canal itself an engineering revolution, and which fixed upon that enterprise the attention of the expert and financial world.

"Mr. Bates, as a hydraulic engineer, secured a contract upon the drainage canal. He was paid twenty-five cents per cubic yard for removing earth, a price at which it was predicted he would meet bankruptcy. The actual cost to him, however, has been less than one-half the contract figure. This result he was able to reach by means of his hydraulic dredger. He used machines which were vastly larger and more powerful than any other similar machines the world had ever seen. These machines were not a quick invention, not a discovery, but a development and combination made necessary by keen competition and made possible by the sharpened wits of the most alert and resourceful young men of the present day. Engineers of all countries were amazed at the ease and small cost with which earth was thrown from that canal by the hydraulic marvels.

"This, however, was only the first step. It was not long before Mr. Bates was sent for by the Mississippi river commission government board, which had been struggling for years with one of the greatest modern problems, that of keeping a depth in the father of waters sufficient to permit even light-draft steamers to ply between St. Louis and New Orleans. Twenty millions of dollars have been spent for this purpose, and in a recent official communication the Secretary of War said the only result was eighteen

inches more of water for a distance of fifty miles. This discouraging result was not the fault of the commission, which had done as best it could with the means at its command and it really overcame many great obstacles. It was to the credit of the commission that it alertly, and in disregard of the traditions with which it was more or less encumbered, sought out the young man who had achieved so much on the drainage canal and asked him to build a hydraulic dredger for use in deepening the Mississippi. In fact, the members of the board builded wiser than they knew. They were after an improvement, but they have found revolution.

"Mr. Bates built a machine under contract. He was to have \$172,000 for it if it should be found capable of removing 1600 cubic yards of earth per hour. If it was able to remove 2400 cubic yards he was to have a bonus, or premium, of 50 per cent. of the contract price. The official tests have just been finished near Memphis, and his great dredger has demonstrated its ability to do things that are well-nigh incredible, but they are official and must be believed. An average of the tests in ordinary river sand, according to the requirements, gave results of a little over 6000 yards per hour. The maximum was as high as 7798 yards. Mr. Bates, therefore, gets his bonus of \$86,000, which he has been in Washington arranging to receive from the treasury. If, however, he were paid according to the capacity of his machine, pro rata, he would receive the enormous premium of \$500,000.

"In other words, this machine will go through a sandbar at a speed of from five to ten feet a minute, cutting its way through a solid bank and leaving behind it a channel forty feet wide and twenty feet deep. To grasp the idea one must imagine himself in a Chicago street. It is forty feet from curb to curb. By looking up a story and a-half of a building one gets the width and depth of the swath this monster cuts for itself out of the solid earth. Of course, it could not do its work at such an amazing rate as this if it were not for the water which it has to work with. That is the secret of the whole performance.

"In front of the machine are six intake pipes, turned downward. Surrounding each of these is a cylinder fitted with knives, which is kept in revolution all the time, so that the knives cut and chew up the sand and mix it with the water. This process, it should be remembered, goes on all around the intake pipes, and in these pipes the suction of great steam-driven centrifugal pumps is pulling away at the loosened mass of sand and water. It is easy to imagine the result. Great solid streams of debris flow in the pipes at a rapid speed. The hydraulic engineers have calculated the speed to a nicety. They know to the fraction of a foot what speed the current must have through those pipes in order to carry the sand in solution.

"This is the way in which the hydraulic dredger steams up to a sandbar, attacks it, cuts its way through, almost without an effort, and is then ready for the next one. There is not a bar on the Mississippi which it will not go through in three hours when fitted with self-propellers or tenders. These bars are usually 1500 or 2000 feet across. It is not necessary to remove them altogether. The bed of a river traversing an alluvial country is a series of long pools separated by bars which have formed between them. It is not necessary to remove the bars en masse, but only to cut a channel from pool to pool, through which the steamers can pass. When the channel is once cut the river will widen it by natural means.

"But what becomes of the sand that is taken out of the bar by the half-dozen suction pipes? It is deposited a thousand feet away from the spot where it is taken out. The pipes run through the great floating giant and a fifth of a mile to the rear, or to one side, or to whatever spot may be wished. The pipes are supported on pontoons, and, of course, may be shifted at will. This dredger could, if necessary, work on the lake front in Chicago, and deposit its debris away over on Halsted street on the west side.

"Thus the problem of maintaining a channel in the Mississippi river at low water is solved. Where there is now but four and one-half feet of water in the autumn there will be, after a few of these dredges have been put to work, fourteen feet. In two years it is possible to have fourteen feet of water from St. Louis to the sea every day in the year. Five hydraulic dredges will do the work if employed four or five months a year at a cost of \$10,000 a month each. This is almost magic—modern magic.

"The significance of this achievement is that the problem of maintaining low-water navigation in all alluvial streams is solved. It is applicable to the Missouri, to the Illinois, to the Sacramento, to the Volga, to the Danube, to the Dnieper, to the Hoogly in India, to the La Plata, to rivers in all parts of the world. It is fair to predict that no invention or achievement since the development of steam navigation has done as much for water transportation upon rivers as this successful application of hydraulics to river-bed dredging will do in the near future."

To the correspondent of the Times-Herald Mr. Bates said:

"We have not only solved the problem of river navigation at low water, but the cutting of great canals will be revolutionized also. This one machine which I have just tested at Memphis has a capacity equal to all the dredging machinery M. De Lesseps had at Panama. In my opinion—and this thought I have given to the House committee on commerce—the Nicaraguan canal can be constructed within the company estimates. The total displacement of the drainage canal is five-sevenths of that in the Nicaraguan canal. At Chicago we had an assemblage of the highest engineers and contractors of the United States. Competition was keen. Contracts were let at what seemed to be absurdly low prices. Bankruptcy was predicted for some of the contractors. Yet many of them have made money, and the total cost of that great work has been only \$30,000,000. Our work there was performed at one-half what it cost the Englishmen on the Manchester canal. Rock work was taken at seventy-five cents a yard and done at a cost of fifty. Earth work was taken for twenty-five cents and done at ten or twelve.

"These results were accomplished because the wits of the contractors were sharpened by necessity. They had to invent and devise or lose money. A man came out of the mountains of West Virginia and arranged a successful application of the aerial railways for carrying away debris. Another devised the cantilevers for lifting rock. These are the kind of men to build the Nicaraguan canal.

"I have told the commerce committee of the House that in my judgment the government engineers who made a report on the Nicaraguan canal made their estimates along the traditional lines and did not make sufficient allowance for the developments of the last few years. There are miles and miles of the Nicaraguan canal I am willing to contract for at seventy-five per cent. of Mr. Menocal's estimates—the estimates which the government board condemned as faulty—and

give bond for the completion of my undertaking.

"I have also suggested that the men who made the drainage canal are the kind of men who should be sent to make a report on the Nicaragua project. If reasonably assured of employment or a chance to bid on the work, I am assured a number of them would go down there, spend their own money making investigations, and when they returned they would offer to do so much construction for so much money and give bonds as guaranty of their faith.

"Do I believe the Nicaragua canal can be built within \$100,000,000, and that it will not cost \$133,000,000, as reported by the government engineers? I do, most emphatically. Moreover, I believe that canal should be cut and that it is one of the greatest works to which the American people should now give their attention. The Pacific coast is now farther from market than any other country of the civilized world. It is farther than South Africa, or Australia, or Argentina. It is impossible to estimate the traffic that would be developed by the opening of that route.

"The effect of the opening of the Nicaragua canal upon the commerce of Chicago could not be other than beneficial. When a country is new its movements of freight are from east to west, or vice versa, between the older and the newer parts. When it is older the freight must increase from north and south, from one latitude to another. The great freight and commercial development of the future is to be north and south in the Mississippi valley. The undeveloped West no longer exists. Nothing remains but to fill up the places which have been passed over.

"The near future will bring a vast trade to the South, to Mexico, Central and South America. The Nicaragua canal would greatly benefit New Orleans, Mobile, Charleston and all Southern seaports. Yet many of the statesmen from that section oppose it on constitutional grounds. When the Mississippi river is made the great all-the-year-round commercial highway of the Mississippi valley, as it soon will be at small cost to the government by the use of hydraulic dredges, the opening of the Nicaragua canal would quicken the streams of commerce all the way to and from the interior of the continent, of which Chicago is the metropolis and the ruling spirit.

"As I look at the future, there will be, not many years hence, not only a canal through the isthmus at Nicaragua, but barge lines, and perhaps ocean-going craft will run from Chicago through the Illinois and Mississippi to the sea. Many lake craft will be able to work practically the year round instead of lying up all winter.

"The revival of American shipping is a great question. It involves our commercial prosperity and our financial policy, too. If we are going to have the gold standard, why does not some one tell us where we are to get the gold? Unless the world chooses to pay more for our agricultural products—and I do not see much prospect of that with Argentina, Africa, India, Russia and Australia taking more and more of our markets—we must look to our ships for an income of gold. * * *

"In my humble opinion, our lawmakers should realize that the commercial competition—the rivalry for trade, for markets, for ocean carrying, for gold—was never before as keen as it is at the present time. South America, Australia, South Africa, Japan, are all new empires which are eager competitors of ours in all the fields of activity. If we stand still we shall soon be distanced in the race."

The Ramie Industry.

At last there is an assurance that the South will have a market for all the ramie it can produce, for a plant will soon be erected at Brooklyn, N. Y., by a wealthy corporation, for the purchase of the raw material and its conversion into fibre for the use of spinners and weavers. Ramie cannot be grown north of the frost line, but it flourishes in many parts of the South, with a growth of from four to six feet of stalks that are straighter and contain more fibre than the Chinese and East Indian plants.

In 1855 the United States Agricultural Bureau first called the attention of Southern planters to ramie as a profitable diversification from cotton and other indigenous crops, and since then many have experimented with it and have satisfied themselves that it could be grown with great profit in whatever quantity the world's demand called for, but unfortunately there was no such demand. While it was demonstrated that in many localities from three to six crops could be cut annually, the lack of a market for the raw material prevented any general cultivation. Then ingenious men began some twenty years ago to hunt for a method of decorticating and degumming ramie stalks, so that the fibre could be made an important article of export. At first they met with little success, but by perseverance they began to discover the secrets of the plant and to get nearer and nearer to the accomplishment of their wishes. Every now and then some man thought he had invented a decorticating process that would be of commercial value, but none fully served the purpose until a St. Louis inventor patented in 1893 one that separated the fibre from the stalk, which was the first commercially successful machine of the kind of modern invention. It has been sold in Europe and in several South American countries, which for nearly three years have been making ramie yarn.

The use of ramie fibre for making yarn and textile fabrics dates back beyond man's knowledge. Fragments of ramie cloth have been found in Egyptian tombs in the wrappings of mummies that were embalmed 4000 years ago, but ramie production and manufacture have for centuries been numbered among Egypt's lost arts. China has made ramie yarn and textiles for ages, and has kept well her secret of how she prepares the fibre for her spindles. It is only within twenty-five years that civilization has given its attention to this fibre as a staple for textile industries. Various methods were tried for extracting the fibre and preparing it for the spindle before any were found that would answer. Although the European process of degumming is expensive, and the chemicals employed reduce materially the tensile strength of the fibre, yet that process has enabled Europe to buy and manufacture enough foreign-grown ramie to furnish stocks of fibre for five factories in England, two each in France and Germany, and one each in Austria and Switzerland. Among the goods made in whole or in part of ramie yarn in these factories are tablecloths and napkins that excel in lustre the best Irish linen; also delicate laces, velvets, damasks and brocades of brilliancy unsurpassed by any other material except silk; in fact, it is frequently interwoven with silk. It has three times the strength of Russian flax and double that of best Holland, Belgium and Irish varieties. Some German mills are making fine qualities of women's stockings and men's hose. Several English mills are producing a fine quality of damask table linen, which is bought in great quantities by the wealthy people of that country. Much of the so-called silk used for

sleeve and inside linings and finishings, for the inside finish of men's hats and for manifold other purposes is either of pure ramie yarn or of that as an adulterant of other fibres. The ramie fibre is long, strong, beautiful and silky, and can be used either as an adulterant or as a substitute for silk in the manufacture of fine textiles. Nor is it limited to such fabrics as have been mentioned, for its possibilities are virtually unlimited, such, for example, as the manufacture of stuffed goods for men's wear, upholstery, curtains, laces and embroideries, plushes and velvets, stockings, sheetings, sails, duck, carpets, cordage, fishing nets and yarns and threads for various uses not enumerated. Last year the owners of the Defender brought out from England a suit of sails made from ramie, of which the British sailmaker wrote, that sails of ramie cloth were of 50 per cent. lighter weight than of any other material he ever used. Aside from its lightness, a ramie cloth sail has this recommendation in its favor, that it does not shrink nor stretch like linen.

The proposed introduction of this industry on a large scale in the United States is due primarily to the patience, perseverance, intellectual vigor and practical scientific attainments of a Southern citizen, Mr. Samuel B. Allison, a New Orleans chemist, who somewhat less than a year ago succeeded in producing a perfect and very economical degumming process, equal to that of the Chinese, as the result of fifteen years of continuous investigation and experiment. Degumming is the elimination of the sticky substance that adheres to the fibre by the use of chemicals. The problem over which Mr. Allison worked so faithfully was how to remove this gum without weakening the tensile strength of the fibre. The beauty of the Allison process is its simplicity. Where, in England, seven separate baths are necessary to bleach the fibre, by Allison's process there is but one. There is, therefore, a large saving in the cost of handling and of chemicals, as well as no wastage of tensile strength, as by European methods.

Just how many Southern acres are planted with ramie there are no accurate statistics to determine. Planters here and there have followed the advice of Prof. Charles Richard Dodge, and of experts of their State agricultural experiment stations, and have succeeded in acquiring much valuable knowledge about how to get the largest crops of the best quality by improved methods of cultivation. It has been stated—but this is apparently a guess—that there are some 6000 acres of ramie in the Southern States, and it is also said that there is one farm of 1200 acres in Texas on which it has been grown several years. It has recently been announced that an organization of European capitalists, styled the Anglo-Dutch Ramie Fibre & Paper Co., has purchased and is preparing to cultivate 4000 acres in Arizona with ramie. It expects to ship its product to the English and Continental mills. Last year this country exported 750,000 pounds of crude ramie to England, but it was but a moiety of what mills abroad would take if this country had it to sell.

It now costs \$235 a ton to lay down Russian flax in New York, while Liverpool pays twice as much for flax delivered on her wharves by Belgium, Holland and Ireland. And yet ramie is considered by experts so far superior to flax for all the purposes for which the latter is used, and can be produced so much cheaper, that in the opinion of many it will supplant flax just as soon as the annual crop is equal to the world's needs.

If the foregoing statements are to be relied upon—and the New York Tribune,

from which most of them have been taken, vouches for the responsibility of the men from whom it received them—then Samuel B. Allison, the New Orleans inventor of the degumming process, and the St. Louis inventor of the decorticating, have, by their two practical inventions, made possible a revolution in the textile industries of this country and Europe and the diversification of Southern agriculture by adding another to its several special staple crops.

Should all that has been told of the great variety of textile fabrics that can be made from ramie prove true, and there seems to be no reason to doubt it, then many Northern spinners who are thinking of changing their business because of the competition of Southern cotton mills, may fit up their plants for the manufacture of ramie products and be in the future as large buyers of Southern ramie as they have been in the past of its lint cotton.

A side product of the ramie plant which has in Europe been utilized commercially is its leaf, of which the Oriental and American plants are alike prolific. These can be so treated as to produce the highest grade of bank-note and writing papers. The Anglo-Dutch Company that is to raise ramie in Arizona will use its leaves for that purpose.

The Manufacturers' Record will endeavor to keep its readers fully informed of the progress of this proposed enterprise, which, at its beginning, promises to accomplish great things for this country, and especially for Southern agriculture.

Important Mexican Industrial Enterprise.

A correspondent of the Manufacturers' Record, writing from Monterey, Mexico, states that Mr. Jos. A. Robertson, of that place, the late general manager of the Monterey & Mexican Gulf Railroad, has secured from the government valuable concessions, giving him the right to build water works, establish an extensive irrigation and sewerage enterprise, and develop electric-power plant. Under these concessions Mr. Robertson agrees to spend a minimum of \$500,000 within five and one-half years. Our correspondent, however, writes that the aggregate investments under this extensive system of development will involve an outlay of from \$6,000,000 to \$8,000,000 of Mexican money within the next ten years. This will open up large tracts of agricultural lands around Monterey, which have no present market value, from want of water for irrigation. The building of an extensive dam and the laying of some hundreds of miles of pipe, which, it is expected, will be used in carrying water for irrigation purposes over a large area, will, it is thought, give high value to all the land involved in this undertaking. Mr. Robertson has a contract for paving the streets of Monterey with vitrified brick, and has established an extensive plant for making the brick.

Col. John J. Garnett, of the Confederate States artillery, has contributed to the "Lee of Virginia" series now running in Frank Leslie's Popular Monthly, a paper on "The Seven Days' Campaign Near Richmond." It appears in the June number, and describes the second battle of Manassas, the first invasion of Maryland and the battle of Antietam. The article is handsomely illustrated with battle scenes and portraits of General Lee, Stonewall Jackson, General Johnston and others.

The Louisville Commercial Club at its annual meeting elected the following officers: Angus Allmond, president; T. L. Jefferson and E. H. Bacon, vice-presidents.

Oil Developments in Kentucky.

[Special Cor. Manufacturers' Record.]
Ashland, Ky., May 16.

Interest in Kentucky oil land, especially in the valley of the Big Sandy and the eastern counties, is enjoying a decided boom just now, and very liberal terms are being offered for leases at many points. The recent strikes in the upper valley have renewed the waning hope and brought back for further investigation operators who had finally and completely given up intention of further action. A score of prospective operators and present lease owners have been in the valley the past week, and the same conditions have existed for the past three months. Pennsylvania, New York and Ohio capital have been represented liberally, and more substantially-backed speculators have been up the valley this spring than ever in the history of the field. Exaggerated reports have been sent out, it is true, as to the real value of the several finds, and strikes have been reported that never existed. Still, with all of this, there are indications that point to most satisfactory results with several of the companies, and while concealed as carefully as possible, they are also sufficiently pointed to induce unusual investment on all sides.

Lately the Ohio companies appear to be leading both in the work of drilling and the striking of paying oil. The Corning Oil Co., of Columbus, operating on Beaver creek, in Floyd county, have struck two flowing wells, the exact value of which cannot be accurately stated, though it is understood through responsible and experienced sources that either of them will, with proper working, be worth from seventy-five to 100 barrels per day. The fact that they are boring additional wells in the same vicinity, and that all so far have been working off to a single direction, indicates that they have not only found a field, but have been systematically following it up for the best location. Their last well is on Goose fork, while the first strike was on Cow creek, both within easy distance of Prestongburg.

Reese & Shaw, of Lima, Ohio, have also been creating considerable commotion of late in the Marrowbone field of Martin county. They have a well there that has been credited with an output of from 100 to 500 barrels, but a good allowance is 100 barrels. This is in the famous Warfield gas territory, and has been watched with unusual interest ever since started. It is now plugged and carefully guarded. It was a gasser of considerable ability, and the oil is of a different grade from the Floyd county product, which is of the Pennsylvania variety.

The Marrowbone section has been overrun with lease-takers for the past six weeks, and there is but little available land left unsecured, the major portion of it having been gobbled up by agents of the South Penn and New Domain Oil companies, both branches of the Standard, that are watching developments closely and taking advantage early in the game of any strikes made.

Reese & Shaw have a liberal leasing though, while others, from Pennsylvania mostly, have also secured considerable territory.

Capt. E. Allen, of Huntington, who has for several years successfully contested all claims to control of the Warfield gas region, is up the valley this week with a party of New York operators, of which Samuel Bradley and son, of Bolivar, N. Y., are the leading spirits. These gentlemen have been interested in that section for twenty years past, and are expected to make some early steps toward pushing a development of their interests.

In the same vicinity, also, this week are

L. D. Thurston, of Lima, Ohio, and C. C. Prentiss, of Pennsylvania. Prentiss, with his father, has been interested in the Warfield section for fifteen years, and it is supposed that this trip means some future and speedy development.

Lower down in the valley on Blaine creek, in Lawrence county, a company, backed principally by Louisa capital, is going down at a rate that guarantees completion by the last of the month. Twenty years ago a well was put down in the same vicinity, and a light lubricant, famous all through this end of the State as an article of exceptionally fine quality, even in the crude state, was found in quantities of 100 barrels per day. This oil sold then at \$10 a barrel, and the well was a gold mine until the owners attempted to increase the capacity by shooting it. This action sent up a flow of salt water that overcame the oil and is yet noticeable. It shut off the flow entirely, and the decline that followed in the market shortly after prevented any other operations in that section, which has since been entirely overlooked. It has been well known for fifty years that it was impossible to secure a good well of water in the Blaine territory, as the oil always tainted the product.

In Floyd and Pike counties, where a year ago the New Domain Oil & Gas Co. and the South Penn Oil Co. were both operating largely, there is little being done. These companies both have wells plugged and supposedly of good producing value, and are now principally devoting their attention to watching the work of the other outside concerns and leasing largely about the scene of every strike. They are under contract to put in some wells before fall, but they are not rushing their preparation so far. Their leases extend over a half-dozen counties in the Cumberland foothills and are something tremendous in aggregate. Both these are branches of the Standard, and their work is very quietly, speedily and most effectively executed.

Guffey & Queen, Pittsburghers, who have several plugged wells in the Salt Lick region of Floyd county, are doing nothing toward further operation and apparently content to await the result of the other operators. The wells of this company are light producers, and range up and down the creek with a uniform production all along. The company has done no drilling this year.

Greenlee & Forst, under this same name, still retain their lenses on Beaver creek in Pike county, and have evinced of late an inclination to take up the work of drilling. Since their last effort on the Caney fork of Johns creek, which resulted in a duster, and their former experiment on Cedar creek, which was almost as discouraging, they have left off completely and are pushing their interests about Sistersville and in the new Waverly (W. Va.) field, with little promise of coming back here until the merit of the Big Sandy field is fully established.

The Hocking Valley Oil Co., of Cornings, Ohio, holds extensive leases and a couple of wells in Knox county, the value of which cannot be stated. At least one of these is a gasser and is now burning from a fire started two weeks ago by an enterprising native, who had a desire for experiment. The rig and adjoining buildings were burned. The company is still taking leases and will, it is announced, put in two more wells this season.

The Gill Oil Co., of Pittsburgh, has a well on the Arnett farm, near Hendricks, Magoffin county, that has been bothered for several weeks with fastened tools, but it hopes to have this trouble removed this week and the well under way again. This is its first venture, though it has ex-

tensive leases in the Licking valley. This is a branch of Pratt, Cooper & Co., another Pennsylvania concern that has been leasing heavily on the same stream in both Magoffin and Knox counties. Pratt, Cooper & Co. have, so far as reported, made no strikes yet, though they have put in one well and are working on another.

There is of late an inclination on the part of the Pennsylvania prospectors to work down the Licking river, and several agents have been working at lease-taking in Morgan, Breathitt, Elliott and Rowan counties of late. Who those men represent they have constantly refused to admit, though it is the general opinion that they are Standard employees.

In Rowan county, near Farmers, in the valley of Licking river, H. C. Bunnell, representing Lewis Emery, Jr., of Bradford, Pa., who is also largely interested in timber on that stream and operates extensive mills at Farmers, has recently taken heavy leases and is now arranging to put in a well at an early date. The rig is going up and operations are expected to begin the early part of June. All the machinery has been received already. Bunnell has figured out, to the satisfaction of himself and Mr. Emery, that they are directly in the trend of the Pennsylvania field, and they hope for great things.

About Willard, in Carter county, a company backed by H. M. Thompson, R. M. Krieger, John R. Hughes and H. K. Brown, of Portsmouth, Ohio, are taking many leases, with conditions that call for a well ere the summer is over. Mr. Brown, who has had no little experience, has been doing the leasing, and claims that Willard lies directly in the Sistersville oil belt. They are very confident.

Near Catlettsburg, on Catletts creek, a company of Pennsylvanians are putting up a rig for a well that will be complete by the latter part of July. There has been little investigation of this territory, and the venture is wild-catting pure and simple. The only other well in Boyd county is back of Ashland, at Summit, and was sunk two years ago by Troutmen Brothers. There was with this well a touch of both oil and gas, but shooting failed to produce a flow sufficient to make it worth taking permanently in hand. Only the obstinacy of the parties owning the surrounding territory prevents this section being further worked.

Across Big Sandy, in West Virginia, several wells have been put in without result. The first was some five years ago at Wilksdale, Wayne county, where nothing was found. Leases have been taken in that neighborhood, though of late, and there is promise of other tests. In the section immediately opposite the Warfield region there have been extensive operations in lease-gathering, and wells are promised, but what will be the result cannot be stated.

A Huntington concern placed a well, without result, at Green Bottom, and are arranging to put in another up Guyan river.

The Florence Oil Co. is also placing a rig at Salt Rock, Cabell county, a short distance from Huntington, where a duster was drilled a year ago. The general opinion is that this country is no good, but the Florence people are not convinced.

Deeper down in Kentucky than any point hitherto mentioned, the Rock Oil Co., composed of capitalists from New York and New Jersey, is leasing in Clarke county on Lulbegrud creek. It has prepared to put in a well, but just now the matter is rather hanging fire, and what will be the result time only will show. Likewise in Lewis county, near Vanceburg, leases have been secured by J. B. Orton and associates of Tideout,

Pa., and their promises of early development have not yet taken substantial form. This country in Lewis is not a new one in oil excitement, as back in the sixties several wells were drilled thereabouts and oil was found in promising quantity. The present leasers have secured considerable territory on Straight and Indian forks of Kinney creek.

This general activity cannot all be for nothing, and there will probably be, before the summer is over, a pretty thorough demonstration of whether there is anything in oil in this end of the State. There must some practical conclusion naturally follow such extended operation, and it is the general belief of those interested that this section of the State will develop an oilfield that will rival the northern territory in its richest showings.

Industrial News from Birmingham.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., May 18.

The iron market is reported dull, and there is nothing in the outlook that induces one to forecast any improvement in the near future. At the same time, some handsome orders are being shipped. Having been placed some time back, they have no influence on the market. Quotations are unchanged, and are said to be maintained. There is no temptation in the hope of increased business to cut prices.

No. 1 foundry is \$8.25; No. 2 foundry, \$7.75; No. 3 foundry, \$7.25; No. 4 foundry, \$7; No. 1 soft, \$7.75; No. 2 soft, \$7.25; silver gray, \$8 and \$8.25; gray forge, \$6.75; mottled, \$6.75.

Shipments are good, but they represent past sales.

The Birmingham Machine & Foundry Co. reports sale of Corliss engine, 22x48, to go to Baton Rouge, and another, the same size, to go to Franklin, La. It also reports having secured the contract for the engine for the oil mill at East Birmingham. It can be mentioned as an interesting fact that these works are the only ones south of the Ohio river that make a specialty of or turn out a completed Corliss engine. At the Warrior Machine Works business has so increased with them that they have added to their facilities by erecting a hydraulic press and increasing their mechanical force. The brass and bronze foundry of G. L. Anderson & Co. report an activity taxing their capacity. The various other industries report that they are comfortable in the way of orders already in hand and on the way to completion, but have nothing special in the way of important new business.

The rolling mills are running in a very limited way in all departments, and report a very dull demand for finished product. They have nothing to say that is new concerning their contemplated steel mill, nor is there floating around any new "ondits" about the steel mill of the Tennessee Company. Mr. J. H. Woodward, of New York, when here a short time since, said to a friend, "Don't be uneasy about our steel plant; its erection is certain." He is in a position to know whereof he talks. A very interesting and significant article from the pen of Mr. P. G. Shook, a vice-president of the Tennessee Iron, Coal & Railroad Co., upon the situation as to iron in this section, was published yesterday. He asserts: "It is manifest that the iron interests of the South must go into one of two things: They will have to go into the manufacture of steel or they will have to go into bankruptcy." Speaking of the high rate of freight on pig iron from here to consumptive points, he shows that it is such a high per cent. on the initial cost, and so unfavorable when compared with steel, as to force conviction on even an unwilling mind. The proportion that the freight

rates bear to the initial value of the article shipped is shown in the following table:

| | F. o. b. | Freight to | on initial |
|---------------------|----------|------------|------------|
| | | Chicago. | price. |
| Gray forge | \$ 6.30 | \$ 8.85 | 60 |
| Bar iron or steel | 30.00 | 4.50 | 15 |
| Sheet iron or steel | 50.00 | 5.40 | 10.8 |

In comparing the cost of making steel from the pig metal to the billet by the Bessemer process with the open-hearth method, he concedes to the Bessemer an advantage of \$1.50 per ton. But this is counterbalanced by the greater price (\$2 to \$5 per ton) commanded by the open-hearth over the Bessemer. Space permits me to copy further only this extract: "Having recently been detailed by my company to make an investigation of the use of our Alice basic pig iron by Northern steel makers, I was afforded a most excellent opportunity to form impressions and make observations as to the views entertained by our Northern friends touching the probable future development of the steel industry in the South. With one accord they were amazed at the remarkable success attained in making a pig metal suitable in every particular for basic open-hearth practice. The three elements around which restrictions are thrown are silicon, sulphur and phosphorus, the specifications being 1 per cent. silicon and phosphorus and .05 sulphur. Not only have these stipulations been complied with, with a remarkable degree of regularity, but pig iron has been produced by the Tennessee Coal, Iron & Railroad Co., running uniformly one-half of 1 per cent. silicon, .02 to .035 sulphur and .6 to .7 phosphorus. Practically all the large producers of basic open-hearth steel in the country have used and many are using today the product of the Alice furnace, located in this city." J. M. K.

Atlanta's Bicycle Factory.

The Atlantic Bicycle and Machine Works, of Atlanta, Ga., mentioned recently in the Manufacturers' Record as projected, was incorporated last week. The company has fixed its capital stock at \$100,000, and elected Mr. Frank W. Lewis, of Indiana, president; A. J. West, of Atlanta, vice-president; Arthur Green, of Indiana, secretary and general manager, and James L. De Sette, of Indiana, treasurer.

The manufacturing property of the Atlanta Furniture Co. has been purchased for \$25,000, and a like sum will be expended in rearranging the plant and remodeling it suitable for a bicycle factory. The equipment of machinery is now en route. This plant will be the only one of its kind south of Maryland, and at the start about twenty-five complete bicycles will be produced each day. As the demand increases the capacity will be enlarged and capital added to an output of 100 machines daily. Mr. Green, general manager of the company, will locate in Atlanta in order to give his personal attention to the business.

The Indiana parties interested are, the Manufacturers' Record is informed, experienced in bicycle-making, having been engaged in that industry for some years, and the wheel to be marketed is one which has had a thorough test in use.

"Coal Statistics for 1896" is a manual issued by Adler & Ruley, of Philadelphia, giving complete directories of all coal mines in the United States, together with statistics of production, distribution and other matter relating to the coal trade in general. The facts and statistics presented are grouped under States, and make this handy pocket volume of great value to all persons in any way interested in coal, whether as miners or consumers. The price is fifty cents.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Southern Pacific at Galveston.

The Southern Pacific Company is considering the idea of making Galveston, Texas, one of the ports on its steamship line. At present New Orleans is its only Gulf port, from which the Morgan Line of vessels now runs to New York. This fleet is one of the largest in the American coastwise service. Several years ago Mr. C. P. Huntington considered the plan of having them touch at Galveston, but the ship channel was not deep enough to make it practicable. In a recent interview, Prest. A. C. Hutchinson, of the Morgan Company, stated that, with the present depth of water, these ships could unload at the Galveston wharves without the necessity for lighterage.

Spartanburg to Henrietta.

Prest. Arch B. Calvert, of the company promoting the line between Spartanburg, S. C., and Henrietta, N. C., on the Seaboard Air Line, writes the Manufacturers' Record that arrangements have been made for its construction in the near future. The company is ready to negotiate with contractors, and will soon be in the market for rails. The road is to be standard gage, twenty-four miles long, and will pass several of the largest cotton mills in the South. It will give Spartanburg additional transportation facilities by way of the Seaboard, while it will connect the latter with the Port Royal & Western Carolina, forming a new route from Augusta, Ga., and Port Royal, S. C., to the North. It is one of the most important short lines yet projected in the South. The company is composed of prominent cotton-mill men and bankers.

Marietta & North Georgia Extension.

The statement is again made that the Marietta & North Georgia road is to be extended from Marietta to Atlanta and from Knoxville to Bristol, Tenn., the present western terminus of the Norfolk & Western system. As the Manufacturers' Record has stated in previous issues, such extensions would give the N. & W. a line into Atlanta by way of Knoxville, Tenn. The combination would give Atlanta another route to the North and East and would greatly change the present railway situation in the South. The latest statement comes from Newman Erb, a director in the company which is at present in control of the Marietta & North Georgia. Mr. Erb claims that the new owners now have the funds to make the rest of the payments on the M. & N. G., and intimates that the Chattanooga Southern, now controlled by Russell Sage and associates, may form a part of the new combination.

A Georgia Road Extension.

Following the lease of the Northeastern Railroad of Georgia to E. A. Richards & Co., of Atlanta, comes the report that the lessees have arranged to extend it from its northern terminus, Lula, Ga., to Chattanooga, Tenn., a distance of 100 miles. As already stated in the Manufacturers' Record, this road, which is owned by the State of Georgia, extends from Athens to Lula. If it is extended as Richards & Co. claim, the Seaboard Air Line would have a Chattanooga feeder, as the Northeastern connects with the Seaboard at Athens. It is generally understood that Richards & Co. represent a syndicate or some railroad company which does not wish to appear in the lease of this road. If built to Chattanooga, it would traverse

the mineral territory in North and West Georgia, from which considerable local traffic will originate. Mr. Richards is quoted as saying that New York parties have become interested with him, but that neither the Southern nor the Seaboard Air Line has any connection with his scheme.

Columbia & Maryland Contracts.

The Columbia & Maryland Electric Co. has contracted with the Westinghouse Electric Co. to furnish the motor equipment for its system. Ten equipments, of two thirty horse-power motors each, twenty motors in all, are for the cars which will run between Baltimore and Catonsville.

For the through cars the Westinghouse Company contracts to furnish eight sets of four 100 horse-power motors, or thirty-two in all. These are to be put four on a car, and are to be guaranteed to maintain a continuous speed of sixty miles an hour on a level track. The through cars will be forty-three feet long, and will be run in trains, with a total weight of forty tons to be drawn by the four motors.

The plan of furnishing the current to the motors is now being considered. It is possible that the sliding-contact system, used by the Baltimore & Ohio on its Belt Line for hauling heavy trains, may be adopted.

Another Line to Galveston.

The Galveston, La Porte & Houston has been completed between the points named, and has been opened for operation. Although but fifty miles long, it is a very important road, as it will doubtless allow Southwestern systems to enter Galveston by forming a terminal. It is a combination of the Houston Belt & Magnolia Park, the La Porte, Houston & Northern, the North Galveston, Houston & Kansas City and the Galveston Western. The work of building connections between these roads was begun in May, 1895. The route traverses sections of Harris and Galveston counties, noted for their rich soil and picturesque scenery. Passing from Houston through Magnolia Park, the road penetrates a long stretch of rich and productive country in a southwesterly direction for a distance of about fifteen miles to the San Jacinto bay; the route then diverts southwesterly, skirting the bay coast for several miles to La Porte; then between Galveston bay on one side and Clear lake on the other, the road extends in a southerly direction to Virginian Point, opposite Galveston. The bay is crossed by a trestle bridge two miles long, with a large steel draw. The road is ballasted with shells, laid with heavy steel rails, and in every respect is substantially constructed for heavy traffic. The officers of the company controlling the line are: J. Waldo, president; T. W. Ford, vice-president; N. W. Nelson, freight and passenger agent; H. J. Simmons, chief engineer.

Chattanooga Southern Changes Hands

The formal transfer of the Chattanooga Southern has been made to its new owners, represented by E. C. M. Rand and Newman Erb, of New York. H. A. V. Posy, of New York, is president of the new company, while E. C. Ashmore, of the same city, is the secretary. M. F. Benzino, formerly superintendent of the New Jersey Central Railroad, has been appointed general manager.

Gen. J. W. Burke, the retiring receiver, has shown his ability as a railroad manager by placing the Chattanooga Southern on a self-paying basis. He has succeeded in liquidating some of its indebtedness; has purchased new rolling stock; has built several branches to industries, which are adding largely to the revenue of the road.

If built to Chattanooga, it would traverse

and, in short, has changed it from an insolvent, depreciated property to an excellent investment. He resigned to give his time to the development of large iron-ore properties, in connection with the Tredegar Mineral Railway & Iron Co., at Jacksonville, Ala., of which he is president. This company has one of the largest and most important ore properties in Alabama. Work of development is now in progress, and four miles of road have already been built in the direction of the mines, and five miles more are to be built during the coming summer.

The Tredegar Mineral Railway will make connections with the East & West Railway at Tredegar Junction, with the Southern Railway at Jacksonville and with the Louisville & Nashville Railway by way of the East & West Railway.

New Type of Locomotive.

The Maryland Steel Co., at Sparrow's Point, Md., which has become noted for the marine, bridge and other work which it turns out, has completed a new type of steam locomotive, which presents some remarkable features. It is what is known as a balanced compound engine, and it is claimed can easily attain a speed of 100 miles per hour, owing to the principles used in its construction. The Balanced Locomotive & Engineering Co. is owner of the motor, which weighs seventy tons.

The engine attains these results by the use of two high pressure and two low pressure cylinders, the high pressure cylinder being placed between the frame and connecting on crank axles, while the low pressure cylinders are placed outside the frames and connect on crank pins. The crank pin on each side is placed directly opposite the axle crank on the same side, so that while the high pressure piston is moving backward the reciprocating parts of one balance the reciprocating parts of the other. On the other side of the engine the same arrangements exist, the cranks on one side being set on the quarter from those on the other, so that the four cranks are at right angles. The revolving parts of the low pressure cylinders and the parallel rods are balanced by revolving weights on the wheels. The revolving parts of the high pressure cylinders are balanced by counterweights built in with the crank axles. The reciprocating parts of each high pressure cylinder balance the reciprocating parts of the low pressure cylinder on the same side of the engine.

It is asserted that this engine is the only one yet designed which is counterbalanced vertically as well as horizontally, and which, therefore, while exerting a uniform pull on the train, maintains a uniform pressure on the track. The fact that the engine is balanced vertically removes the necessity of large driving wheels, which are necessary in the modern system of locomotive construction for a high rate of speed. George S. Strong, of New York, is the inventor, and A. W. Beach the engineer of the company which had the locomotive built.

Railroad Notes.

The Norfolk Street Railway Co. has ordered twenty-five open cars for use on its lines.

J. J. Hill has been appointed general manager of the Galveston, Houston & Henderson.

F. S. Wallace has resigned his position as superintendent of the Chattanooga Southern Railway.

M. F. Bonzano has been selected as general manager of the Chattanooga Southern road by its new owners.

The Chesapeake & Ohio has begun to operate a Pullman car service without

change between Louisville and New York.

Wilbur F. Browder, Jr., has been appointed traveling freight agent of the Louisville & Nashville, with headquarters at Memphis.

Herbert Jackson, soliciting freight and passenger agent of the Georgia road, has been appointed traveling freight agent, with his office in Augusta.

Thomas G. Ryman, of Nashville, Tenn., and others, interested in Cumberland river navigation, have determined to add two more steamers to their fleet.

At the annual meeting of the Georgia Railroad Co., held at Augusta, Charles H. Phinizy, of Augusta, was re-elected president, and Charles G. Goodrich, cashier.

The annual report of the Norfolk & Western has been distributed in pamphlet form to the security-holders. A summary of the report was published in the Manufacturers' Record several weeks ago.

C. B. Cleveland has been appointed Mexican freight agent of the Louisville & Nashville and the Atlantic & Mexican Gulf Steamship Co., with headquarters in the City of Mexico. Mr. Cleveland has been the Eastern agent of the Louisville & Nashville at New York.

The shipments of strawberries from the vicinity of Chattanooga, Tenn., this season are the largest on record. A train of seven cars, containing 4000 crates, was sent out of Chattanooga in one day recently to the Pittsburg, Buffalo, Cincinnati and Louisville markets.

Plans have been completed for the depot to be built at Jacksonville, Fla., by the Plant system, the Florida Central & Peninsular, and the Flagler system. It will be 361 feet long, constructed of brick and granite, and will be one of the most elaborate union depots in the South.

At the annual meeting of the Gulf & Interstate the following officers were elected: President, Nicholas Weeks; vice-president, Leon Blum; general manager, Fox Winnie; secretary, L. P. Featherstone; treasurer, Edward McCarthy; general attorney, W. B. Denson, all of Galveston.

The company promoting the Fernandina Western project, which is a proposed line from Fernandina, Fla., to Valdosta, Ga., has elected the following officers: N. B. Borden, president; Patrick Kelly, vice-president; Fred. W. Hoyt, treasurer; Jas. McGiffin, general manager, and E. W. Bailey, secretary.

The Southern Railway Co. has just issued a pamphlet giving a list of several hundred summer homes and resorts on its system. It appears that a large part of the population of the country traversed by the Southern keeps boarding-houses and summer resort hotels. This pamphlet can be had of any Southern Railway agent.

The Georgia & Alabama is placing parlor buffet Pullman cars between Savannah and Montgomery. On May 24 the road will inaugurate a Pullman sleeper on trains 19 and 20. By this means, passengers can leave Savannah in the evening and arrive at New Orleans the next afternoon. The service will also apply to Louisville and Cincinnati.

At the annual meeting of the stockholders of the Texas Midland Railroad, held at Terrell, Texas, the following were elected a board of directors: E. H. R. Green, Terrell; M. B. Lloyd, Fort Worth; E. H. Green, Wm. J. Quinlan, New York; J. S. Lockwood, San Antonio; T. W. House, Houston. E. H. R. Green was elected president, and M. B. Lloyd, first vice-president.

FINANCIAL NEWS.

An Important Bond Issue.

The Guaranty Trust Co. of New York offers for subscription, at par and accrued interest, \$1,500,000 first mortgage 20-year 6 per cent. sinking fund gold bonds of the Johnson Co., subscription books to be closed on Wednesday, May 27, the right being reserved to reduce or reject subscriptions, allotments to be made on June 2. The Guaranty Trust Co. states in its prospectus that the Johnson Co. ranks amongst the leading companies in the United States for the production of Bessemer steel, and prints a report of Stephen Little, dated April 24 last, addressed to the Guaranty Trust Co. of New York, showing that the cost of plant of the Johnson Co., at Lorain, Ohio, and Johnstown, Pa., is \$4,799,081, and that the earnings of the company for the last six years have been at an average of \$516,650.55 gross, showing, after deduction of interest, the net profit to have been \$476,611.32 per year. The Guaranty Trust Co. further states that it has been furnished with affidavits of disinterested appraisers, certifying the present value of the manufacturing plant to exceed the cost as stated by Mr. Little. The total issue of the bonds offered is \$2,000,000, the interest on which shows an amount far below the yearly income of the company. A sinking fund is provided for the annual retirement by lot of \$100,000 at 105 and accrued interest, unless the company can, through advertising, purchase this amount at a less price. Bonds to the amount of \$100,000 have already been retired. Early application will be made for the listing of the bonds on the New York and Philadelphia Stock Exchanges.

New Corporations.

J. W. Cooper, of Mayesville, S. C., writes that a bank is being organized, with prospects of success.

J. T. Sanders and others are endeavoring to organize a savings bank for colored people at Charlotte, N. C.

J. M. Knott and W. J. Lisle, of Lebanon, Ky., are interested in the Bank of Perryville, which is to begin business at Perryville, Ky., with \$15,000 capital.

Farmers and Merchants' Bank of Hannibal, Mo., has been formed with capital stock \$100,000. Incorporators are A. R. Levering, John H. Garth, D. M. Dulaney and others.

A commission for a charter has been issued to the Farmers' Mutual Fire Insurance Association of Marion, S. C. The corporators named are J. E. Ellerbe, John C. Sellers, D. M. Watson, D. N. Bethea, L. B. Rogers and T. B. Hays.

New Securities.

The board of trustees of Orange, Va., will issue \$3000 in bonds for street-paving purposes.

The city of Laredo, Texas, will issue \$30,000 in 6 per cent. bonds for building purposes. Address the mayor.

A. L. Boulware, of Richmond, has purchased \$15,000 worth of water-works bonds, issued by Blacksburg, Va., at par.

The city of Staunton, Va., has sold to Townsend, Scott & Co., of Baltimore, \$30,000 worth of 4½ per cent. bonds at 97½.

Knox county, Tennessee, will sell \$215,000 worth of 5 per cent. bridge bonds at auction in Knoxville, Tenn., on June 3 at 10 o'clock. Address George L. Maloney, county judge at Knoxville.

Interest and Dividends.

The Dillon (S. C.) Cotton Oil Co. has declared an annual dividend of 15 per cent.

The Second National Bank of Baltimore has declared a semi-annual dividend of 3½ per cent.

The Jacksonville (Fla.) Loan & Improvement Co. has declared a dividend for the year of \$5 per share.

The Equitable Fire Insurance Co., of Charleston, S. C., declared a dividend of 7 per cent. during the past year. At a meeting of the directors Jas. F. Redding was re-elected president; A. Bequest, vice-president; W. G. Mazyek, secretary and treasurer.

Financial Notes.

The directors of the Bank of Marion, S. C., and the Merchants and Farmers' Savings Bank of the same place, have determined to consolidate these institutions.

The Arkansas Bankers' Association has elected the following officers: B. J. Brown, president Citizens' Bank, Van Buren, president; vice-presidents, F. H. Head, Pine Bluff; James M. Phelps, Walnut Ridge; I. J. Adair, Warren; E. G. Thompson, Little Rock; S. S. Faulkner, Helena; J. W. Underwood, Stuttgart; M. H. Johnson, Little Rock, secretary, and W. Y. Foster, Hope, treasurer.

The souvenir edition of leading American exchanges, issued by Messrs. Clapp & Co., for 1895 is a review of the financial transactions of the year which is of the highest value. Its arrangement is extremely original, and includes poetry, as well as the matter-of-fact every-day prose current in Wall street. A mass of figures relative to the course of the stock market, prices and stocks of wheat, both at home and abroad, illustrations of the principal exchange buildings throughout the country, and excellent portraits of Messrs. O. W. and Dwight O. Clapp, also views of their extensive offices in the Mills Building, New York, are some of the features of the book. It is beautifully bound, and the illustrations are works of art.

The marble of North Georgia has become so noted that the Georgia Marble Co. will supply the material for the State House at Providence, R. I., although the New England marble quarries are much nearer that city. The contractors for the building, Norcross Bros., will use 175,000 cubic feet of the marble.

Superficial Examination of Ores Free

The Manufacturers' Record, seeking to turn attention to the mineral resources of the South and to aid its readers in the intelligent investigation as to what may or may not be of value, has arranged with Mr. Charles Catlett, chemist and geologist, of Staunton, Va., to make superficial examinations of samples without charge. Such samples will be reported in the Manufacturers' Record, with a word of explanation as to probable or possible value.

The following directions should be observed:

Samples should be sent to Charles Catlett, No. 10 New Court House street, Staunton, Va., with all mail or express charges prepaid.

The name and address of sender should be clearly stated on package.

Care should be taken to select an average sample, otherwise the examination will prove of no value. Quite a small quantity will be sufficient.

A postal card or letter to Mr. Catlett, with a word of explanation as to mode and exact location of occurrence, would assist in giving value to the examination.

Report on samples sent by Cook & Sawyer, Nottingham, Ala.:

1. Highly siliceous schistose rock containing thin scales of graphite. Communicate with H. A. J. Wilkins, South Bethlehem, Pa., the inventor of a method for the "magnetic" separation of non-magnetic material.

2. Chloritic rock which, on leaching with water, gives ferrous sulphate; possibly in sufficient quantity to be of value.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., May 21.

The phosphate trade has shown but little improvement in a local way during the past week, and the volume of business is hardly worthy of comment. Manufacturers are not in the market, and few purchases will be made for the next thirty or sixty days. Reports from mining sections in Florida and South Carolina show the work of development going forward as usual. The market for phosphate rock in South Carolina is steady, with prices unchanged at \$3 for crude rock at the mines, \$3.25 for hot-air-dried f. o. b. Ashley river and \$3.45 f. o. b. Charleston, and ground rock \$5.50 f. o. b. In Florida some of the mines in the pebble district are still shut down, and will not resume until prices improve. In the land-rock section a number of mines are working, but only to complete some German contracts made last year. Receipts of rock in the local market are very light, and charters for future business do not materialize. Freights in New York were steady for sail tonnage, and the berth freight market quiet and steady, with rates firm and unchanged. The following charters were among those reported this week: A schooner, 1139 tons, from Charlotte Harbor to Baltimore with phosphate rock at \$1.90, and a British steamer, 1493 tons, from Tampa to Landserona with phosphate at 14, May-June.

Fertilizer Ingredients.

The local market for ammoniates has ruled quiet during the week, without any special feature. For all descriptions of agricultural chemicals and fertilizers there is only a moderate demand. The Western market is firmer, with the offerings generally moderate and stocks firmly held at quotations. There is little or no demand from the South at the moment. Nitrate of soda in New York is reported a shade firmer, with the offerings less liberal.

The following table represents the prices current at this date:

| | |
|------------------------------|-------------|
| Sulphate of ammonia, gas... | \$2 300@ |
| Sulphate of ammonia, bone... | 2 250@ |
| Nitrate of soda..... | 1 800@ 1 85 |
| Hoop meal..... | 1 700@ |
| Blood..... | 61 1 70 |
| Azotine (beef)..... | 61 1 70 |
| Azotine (pork)..... | 61 1 70 |
| Tankage (concentrated)..... | 1 600@ |
| Tankage (9 and 20)..... | 1 60 and 10 |
| Tankage (7 and 30)..... | 16 500@ |
| Fish (dry)..... | 20 50@ |
| Fish (acid)..... | 12 00@ |

Phosphate and Fertilizer Notes.

All the phosphate mines in the section adjacent to Anita, Fla., are running on full time, and reported in a healthy condition.

It is stated that all the phosphate mines around Newberry, Fla., are now in full operation, and about \$8000 are paid out each month for labor.

The British steamship *Amaryllis* arrived at Fernandina on the 13th, and the steamship *Thomas Melville* and *Glanfren* on the 14th, all of which are loading with phosphate rock.

The steamship *Drumfell* cleared from Savannah last week for Stettin, Germany, with 1500 tons of phosphate rock and other cargo, and the steamship *St. Fillans* for Barcelona and Venice with 2900 tons of phosphate rock for the latter port.

Mr. B. Arentz, of Ocala, Fla., phosphate miner and shipper, sent out recently the steamship *Royalist* from Fernandina, Fla., with a cargo of 4535 tons of phosphate rock for Rotterdam, said to be the largest cargo that ever left a United States port.

The phosphate miners in the western portion of Alachua county, Florida, are shipping more phosphate rock at present than for several months past. All the mines with one or two exceptions are said to be in operation. The price of rock, however, shows no material advance.

The stockholders of the Southern Phosphate Works at Macon, Ga., held a meeting in that city last week and elected the following directors for the ensuing year: E. W. Jelks, A. F. Warnke, J. E. Laidler, George B. Jewett, R. J. Taylor. At a subsequent meeting of the directors Mr. R. J. Taylor was elected president; Geo. B. Jewett, vice-president; E. W. Jelks, secretary and treasurer, and W. W. Franke, superintendent of works. The affairs of the company were found to be in excellent shape.

B. & O.'s Excellent Record.

During the month of April the passenger train movement on all divisions of the Baltimore & Ohio system was remarkable for punctuality. The through express trains arrived at their respective destinations on schedule time 95 per cent. of the time. This is a performance rarely equaled by roads operating as many trains as are run on the Baltimore & Ohio, and speaks well for the efficiency of the rank and file, as well as the officials of the operating department. The effects of this are already apparent in increased passenger receipts. The reports for the month of April show an increase in the daily total earnings of \$4300.

Two Large Bridges.

The bridge recently constructed by the Pennsylvania Railroad across the Delaware river near Philadelphia is one of the finest structures ever erected in this country. It is intended to connect the Pennsylvania roads east and west of the Delaware river, and by its use the transfer through Philadelphia and the ferry across Delaware bay is avoided. It will be a great improvement in the Pennsylvania service to the Jersey seaside resorts, as an unbroken all-rail route is formed from Baltimore and Washington.

The new bridge is one of the most expensive on the Pennsylvania system, costing in the neighborhood of \$1,000,000. From shore line to shore line it is 1950 feet long. There are three fixed spans of 450 feet each and a drawbridge of 330 feet. On the Pennsylvania side there is an iron trestle approach 2200 feet long, and on the New Jersey side one of 320 feet.

The total weight of the bridge which rests on the piers is about 15,000,000 pounds. The six stone piers, four of which are in the river, used 26,000 cubic yards of masonry. They support the bridge at a height of fifty feet above high tide, and have a foundation about seventy feet below the surface of the Delaware. The bridge was built on plans prepared by Louis A. Pratt, engineer of bridges for the Pennsylvania Railroad, on the tried design which has made the "Pratt Truss" bridges noted among engineers. Chief Engineer William H. Brown, of the Pennsylvania Railroad, made the contracts and superintended the work.

The new bridge to be erected at Knoxville, Tenn., while not for railroad purposes, will be another massive structure. It is to be built entirely of pink marble. It will be 1600 feet long from "out to out" of abutments, and will be 240 feet long in the main spans of arch, which, it is claimed, is twenty feet longer than any arch in the world. It will rise at the crown of the channel spans 150 feet above the water, making it a decidedly imposing structure. It is to be a solid marble bridge from side to side, with a 50-foot roadway.



TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Some Views on Cotton-Manufacturing Matters in the South.

Two weeks ago the Manufacturers' Record published an address delivered by Mr. D. A. Tompkins, of Charlotte, N. C., before the New England Cotton Manufacturers' Association, in which strong ground was taken in favor of reciprocity treaties and subsidies to steamship lines to Central and South American countries. Mr. Tompkins also touched upon the employment of colored help in cotton mills, without, however, advocating or opposing the possibility of this. Since the publication of his address the Manufacturers' Record has received from cotton-mill people in the South a number of letters discussing the subjects mentioned by Mr. Tompkins, and we give a few of these letters.

At present a very active discussion is going on in a number of Southern papers as to the question of the employment of colored help in cotton mills. Some few people in the Carolinas have claimed that there is a scarcity of white help in parts of the State sufficient to necessitate the consideration of the building of mills for colored operatives. The Manufacturers' Record does not believe that there is such a scarcity of help as to justify any consideration of the question on this ground. There is a vast field throughout the South for the expansion of cotton manufacturing where an abundant supply of labor can be secured. It may be possible that the time will come when the cost of producing cotton goods must be still further reduced, and that the abundant supply of colored help will be used in keeping wages at a low point. With its great supply of negroes, there is in all probability a great reserve power which the South holds in cotton manufacturing. A good many Southern people take the ground that the time will come when mills ought to be built for the employment of this labor. The Manufacturers' Record is rather inclined to doubt the wisdom or the feasibility of this at present, but it is a subject which has many sides, and the future of which can only be known after the question has been tested by practical experience.

Should the labor organizations of New England succeed in spreading their doctrines among the cotton-mill operatives of the South and bring about such a condition as prevails in New England cotton mills, with their constant strikes, the outcome would almost inevitably be that manufacturers would fall back upon the colored operatives at lower wages than the whites are now paid. Such has been the result in many coal-mining sections where negro labor, by virtue of its tractability and the readiness to accept lower wages than are paid the whites, has supplanted white labor. The future alone can solve these questions.

We give some extracts from letters about Mr. Tompkins's address:

J. R. Linden, president the Globe Cotton Mills and Standard Cotton Mills, Rock Hill, S. C.: "We concur with Mr. Tompkins in all he says in his article."

R. B. Miller, secretary and treasurer Lauraglenn Mills, manufacturer of ball twine, cotton warps and yarn, Shelby, N. C.: "Replying to your request for my views on Mr. D. A. Tompkins's address on 'The Future of Cotton Manufacturing in the South,' the following is submitted: 1. Raw material. This is in favor of the South; however, this advantage is not as great as appears on the surface. The increase of mills in this Pied-

mont section has grown to such an extent that more cotton is consumed than grown in many localities. This invites local competition and shipments of cotton from a distance with local freight charges added, which amounts to greater charges relatively, and sometimes absolutely, than through transportation. The lower rate of interest secured in New England and Europe helps to equalize this advantage of the South to some extent. 2. The climate, temperature, humidity. The climate and temperature are more favorable and the humidity is not unfavorable for spinning the finest numbers, and in sections, if found where it is not naturally as good, can be easily remedied by artificial means. 3. Labor. This is decidedly in favor of the South in regard to the supply and price; also the quality is gradually improving and their skill has been demonstrated in finer numbers. Now, in regard to colored labor. In my opinion, the introduction of negro labor in textile manufacturing at present would not be wise or judicious, while the demand and supply of white operatives is proportionate. The negro could be made efficient, but race and social prejudice and restrictions forbid the two races working in the same mill. As the white families are taken from agricultural pursuits to engage in textile manufacturing (and the supply in the Carolinas and Georgia will meet the demand for a long time) the negro laborer readily takes their places. The negro is better adapted for farm work. 3. Markets. The American market is the best in the world, and should be maintained by and for Americans, but even this market has its limit, and we need better shipping facilities and trade arrangements to further our foreign trade. Subsidies and reciprocity are needed. If the Southern textile manufacturers were organized properly their prosperity would be greatly advanced. We need good bleachers in various sections of this Piedmont belt. The mills that are producing coarse yarns at present find little or no profit, and the tendency is to spin fine yarns and make fine cloth, which yield a better margin. Water-power and fuel, either wood or coal, are cheaper and more abundant. The cost of living is much cheaper than in the North. The South is destined to increase every year in cotton manufacturing."

W. W. Burgiss, president and treasurer Victor Manufacturing Co., cotton goods, Greer's, S. C.: "I have not read the address of Mr. Tompkins to which you refer, and as I am just leaving home for a ten days' trip, it is likely I will not see it until after my return. I will therefore make no comment on the article. Concerning one of the questions mentioned, viz, negro operatives in cotton mills, would say, I do not believe the genuine negro can ever be profitably used in a cotton mill in any section. In the first place, I do not believe you can ever teach them to do good work, and if you did, they would be twice as hard to manage and control as the white people. There are a good many bright, smart half-breeds who could be made good help, but would never be any cheaper or as easily managed as the white people. I do not believe any respectable white people could be induced to go in a mill with colored labor; in other words, they would not mix at all; it would be exclusively one color or the other. There is plenty of white help in this country; why bring the negro into the question yet? It is only the big mills who have all at once doubled or trebled their plants who are experiencing a little trouble in getting help as quick as they need them. Plants increasing gradually each year have no trouble in securing all the good help they want."

The Isaeetus Mills, Augusta, Ga.: "We have a copy of the Manufacturers' Record, with the very interesting article from Mr. D. A. Tompkins, of Charlotte, which we have read with interest. We approve the idea of 'reciprocity treaties,' and think there should be an active effort made by the mill interest of the South to open up new markets for their manufactured goods in countries tributary to our own, and we think a great deal could be done on this line with the existing transportation lines, without 'subsidizing steamships.' It is impracticable to me, white and colored labor in the same mill, and we do not think a mill could be successfully run with colored help alone until they had been trained to the work. The only objection we have heard to colored help is that the hum of machinery puts them to sleep."

Charles Estes, president the John P. King Manufacturing Co., Augusta, Ga.: "I have read Mr. Tompkins's article in the Manufacturers' Record of May 1, and so far as he refers to the present and future business of cotton manufacturing in the South, I concur fully with his views. He seems to have gone over the ground thoroughly and left no points untouched."

N. F. Cherry, president Cherry Cotton Mills, yarns and warps, Florence, Ala.: "We have read Mr. Tompkins's article, 'The Future of Cotton Manufacturing in the South.' We agree with him in the main. Certainly we must build a mercantile marine proportionate to the demand our increased manufacturing requires if we expect to keep step with the balance of the world. This, of course, will require extensive reciprocity and subsidies to carriers. All this will require time and much judicious work. But it must be done; and when done the prosperity of the South, in all that prosperity means, will surpass anything ever dreamed of in the philosophy of all Southern optimists. Colored operatives: They may be used in coarse work. But this must be entirely separate from white operatives, except perhaps in the matter of bosses. It will probably be some time before this class of operatives will be required in the cotton mills. In the meantime, the negroes will be gradually improving in habits of industry and intelligence, and in a decade they will be more available, so they may be used quite extensively in all the manufacturing interests of the South in the next quarter of a century."

W. I. Harris, president and treasurer Fairmont Yarn Mills, Fairmont, S. C.: "We heartily endorse Mr. Tompkins's advocacy of reciprocal treaties and subsidies to steamship lines to encourage building up our mercantile marine. The United States of America ought to manufacture all the cotton we grow and ship finished product. The cotton grown in America is manufactured somewhere. Why not in our own country? White labor will last for a good while yet, especially so if the cotton-fields produce well and price low."

S. B. Tanner, secretary and treasurer the Henrietta Mills, fine sheetings, shirtings and coarse yarns, Henrietta, N. C.: "I have read Mr. Tompkins's letter in the Manufacturers' Record, and my opinion is that he is about correct in regard to our mercantile marine and reciprocity, and I am inclined to think that he is about correct in regard to the question of colored operatives in cotton mills. However, there may be some risk in regard to their making good help until after they have had several years' training, as they have not been accustomed to work of this character."

J. M. Beatty, secretary and treasurer Fairfield Cotton Mills, cotton manufac-

turers, Winnsboro, N. C.: "I have read very carefully the article, read before the New England Cotton Manufacturers' Association, written by Mr. D. A. Tompkins, on 'The Future of Cotton Manufacturing in the South.' I have had one or two talks with Mr. Tompkins touching not only on the future of the South on this line, but over our whole territory, and I believe his views are sound. I believe, strongly, as Mr. Tompkins does, that the South has advantages that no other section or country can compete with, and when depressions come and others have no profits, we still will have a small margin. But with the thoughtful this condition is not satisfactory. Our United States is becoming so large and powerful in the line of this product that the quicker we place ourselves on mutually advantageous grounds with all the countries possible, the quicker can we determine to manufacture our whole cotton crop. I believe that reciprocity treaties will have the same effect in this large business as the bartering business has in the smaller trades. 'You help me and I will help you' makes friends. Now, it follows if we make arrangements to exchange and sell our goods, we must be ready to get them to the markets, otherwise we must expect our competitors to outstrip us at last. I believe Mr. Tompkins's views on the negro help are right. The negro is secondary to the whites in all such work, and stands ready to take his place in line when called upon. He, by nature, is very imitative, and the more intelligent will be competent to fill the places assigned to them. They are obedient and easily managed when treated justly. I am satisfied they will be put to work in mills when the supply of whites has been exhausted. As in other business in the South, the whites and negroes will be worked in separate mills."

\$10,000 Knitting and Cordage Plant.

The Sumter Knitting & Cordage Co. has been organized at Sumter, S. C., and applied for charter, placing its capital stock at \$10,000. Officers and directors will be chosen at once and arrangements completed as soon as possible for the erection of a plant for the manufacture of knit goods and cordage. Among those interested are Messrs. I. C. Strauss, J. A. Brogdon, A. C. Phelps, H. G. Osteen and H. M. Stuckey.

An 11,000-Spindle Addition.

A dispatch from Blacksburg, S. C., states that the Cherokee Falls Manufacturing Co.'s annual meeting of stockholders was held on May 13. The number of directors was increased from seven to nine, and enlargements to the mill were decided upon. The capital stock will be increased from \$150,000 to \$225,000, and an addition erected equipped with 11,000 spindles and 400 looms, making 23,000 spindles in all in the plant. Mr. R. P. Roberts is secretary-treasurer of the company.

Textile Notes.

The Seattle Woolen Mills, of Seattle, Wash., want addresses of Southern mills that manufacture overall ducks, denims and cottonade for trousers.

The Victor Cotton Mills, of Charlotte, N. C., will add 1000 new spindles to its present capacity, making 13,000 in all. Contract is said to have been awarded.

A commission to organize has been issued to the Landrum Cotton Mills, of Landrum, S. C., with a capital stock of \$100,000, with privilege of increasing to \$500,000.

Mr. J. H. Moore, of Taylorsville, N. C., proprietor of the Taylorsville Cotton Mills, will equip a 50-loom plan at once.

Mr. Moore is now in the market for complete equipment.

The stockholders of the Clifton Cotton Mills, of Clifton, S. C., D. E. Converse, president, held their annual meeting last week. A semi-annual dividend of 5 per cent. was declared.

There is a movement afoot at Corsicana, Texas, for the erection of a cotton mill. A company is proposed, and the Commercial Club is interesting the citizens in the subject.

The stockholders of the D. E. Converse Co., of Glendale, S. C., held their annual meeting last week and elected all the old officers for the ensuing year. A semi-annual dividend of 5 per cent. was declared.

The annual meeting of the stockholders of the Whitney Manufacturing Co., of Whitney, S. C., was held last week, and no change was made in the directory. A semi-annual dividend of 4 per cent. was declared.

The Tucapan Cotton Mills, of Wellford, S. C., has elected J. F. Cleveland, president, and T. E. Moore, treasurer and manager. The plant is now operating 10,081 spindles, and expects to increase same to 15,000 in the near future.

A company has been organized at Cherryville, N. C., for the purpose of erecting a cotton mill, and Mr. Jacob Black has been elected president, and J. M. Rhodes, secretary-treasurer. The amount of \$40,000 has been subscribed to the capital stock.

The directors of the La Grange Mills, of La Grange, Ga., held their annual meeting last week. A dividend of 7 per cent. was declared. The following officers were elected: J. M. Barnard, president, and L. R. J. Render, secretary-treasurer.

The Cleveland Woolen Mills, of Cleveland, Tenn., will replace at once the machinery of its picker department, which was recently destroyed by fire. Mr. G. L. Hardwick, superintendent of the company, is in Philadelphia now contracting for the machinery.

Charter has been issued to the Clinton Cotton Mills, of Clinton, S. C. Mr. M. S. Bailey is president and W. J. Bailey, secretary-treasurer. The directors are Messrs. M. S. Bailey, R. Z. Wright, P. S. Bailey, W. B. Owens, R. L. Bailey, W. J. Bailey and W. P. Jacobs.

Mr. B. S. Crews, of Danville, Va., has completed arrangements for the establishment of the knitting plant recently noted as decided upon. A building has been secured and equipped with twenty-five machines and complement for the manufacture of about 200 pairs of hosiery daily.

The Pacolet Manufacturing Co., of Pacolet, S. C., and the Spartan Mills, of Spartanburg, S. C., each held its annual meeting of stockholders last week. The old officers and directors were re-elected, and semi-annual dividends of 5 per cent. declared. Mr. John H. Montgomery is president of both companies.

The Roanoke Mills Co., Roanoke Rapids, N. C., has placed an order for revolving flat cards and drawing-frames with the Pettee Machine Works, Newton Upper Falls, Mass., and this concern has also received the complete order for revolving flat cards and drawing-frames for the Grendel Mills, Greenwood, S. C.

The O. A. Robbins Company has been organized and purchased the plant and business of Messrs. O. A. Robbins & Co., of Charlotte, N. C. The new company will continue the manufacture of sash cord, and erect a new mill of 2000 spindles. This plant is to make yarns, which will be converted into a variety of cotton

specialties. Complete equipment will be purchased at once.

The Monroe Cotton Mills, of Monroe, La., reported last week as incorporated, has formally organized and elected officers as follows: Mr. D. W. Pipes, president; Uriah Millsaps, vice-president; T. O. Brewer, secretary, and T. E. Flournoy, treasurer. Arrangements will be made for an early commencement of work on the proposed plant.

The Blacksburg Building and Loan Association, of Blacksburg, S. C., is now completing arrangements for the erection of the cotton mill previously reported several times. The plant is to be known as the Blacksburg Cotton Mills. Site is now ready, brick for the buildings is being manufactured and the work on the buildings is about to commence. A board of directors was elected on the 16th inst.

The annual meeting of the stockholders of the Piedmont Manufacturing Co., of Piedmont, S. C., was held last week. James L. Orr was elected president; Hamlin Beattie, vice-president, and directors, Summerfield Baldwin, F. J. Pelzer, Hamlin Beattie, T. Q. Donaldson, J. N. Martin, J. P. Kennedy, S. A. Gregg and W. E. Beattie. The report of the president for the business of the past year showed good results, and that 10,000 spindles and 336 looms were added to the plant.

Following the recent announcement that the John P. King Manufacturing Co., of Augusta, Ga., had petitioned the city council for 1200 additional horsepower from the city canal, comes a report that an additional mill will be built. The Augusta Herald states that "it is now learned that the addition to the King mill will probably be constructed some time this summer. This new building, which will be connected to the present building, will be 100 feet wide by 200 feet in length, and four stories high. In this annex close on to 30,000 spindles will be placed, necessitating the employment of 500 extra hands."

The Atlanta Textile Manufacturing Co., the organization of which was recently reported in the Manufacturers' Record, has been formed for the purpose of securing the location of textile concerns in the South. Mr. James L. Logan, of Atlanta, the projector of the company, in a letter to the Manufacturers' Record, says: "We can get successful factories to move South if we go after them, showing our advantages and offering some inducements. We must make a start, and the end is sure. It is impossible to get these New England people to move by simply inviting them. We must go in partnership with them on a plan something like this: We agree to furnish a site and some working capital and take a hand in the management, thereby representing the local interests; they come and bring their machinery. With our cheap coal and labor and raw material at our doors, success is certain. As soon as our capital is raised, we expect to get ten acres of land, put two factories on it, and as soon as they get some headway and show profitable returns, increase our capital and bring others, putting them all under one company. The two enterprises which we are now working on will employ seventy-five hands and produce \$100,000 worth of goods per annum. I have closed a contract to bring them here, provided I raise the local capital. It is the intention to start only on a business basis, and the goods to be made at the beginning will be braid, tape, basting thread, suspender web, etc. A bleachery and dye plant will be put in, so that in the very beginning we will finish all goods on the spot for the market."

Cake and Meal.—The foreign demand has abated, owing to the restricted consumption in England and the Continent, while the gradually-decreasing stocks here have also contributed to the decline referred to. Prime to choice cake is quoted in Liverpool at £5 2s. 6d. to £5 6s. 3d. per ton. At interior and shipping points prices are unaltered and firm. Receipt of sixty tons of meal is reported from Boston, from which port the consignment of cottonseed reported in our previous letter has been forwarded to Liverpool.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, N. Y., May 19.

The cotton-oil market is dull, the demand being flat, whether for domestic or foreign trade, while a weaker tone with regard to valuations is in evidence. Holders have receded somewhat from the position held a week ago. Prime summer yellow is selling at 25 cents, while off-grade yellow, which is yet scarce, is quoted nominally at the same price. Probably the only enlivening feature to the situation consists in the steady demand for compound lard, thus securing a comparatively sure oil outlet, notwithstanding the depressed condition of pure lard. Greater significance attaches to this fact when it is understood that the Chicago hog supply for the past week exceeded by 100,000 that of the corresponding time last year, when it will be remembered compound lard was a drug on the market. The increase of hog supplies from March 1 to date is 14½ per cent. over the same period last year, all of which would go to prove that the compounded product is increasing in popularity at the expense of pure lard. The latter product is quoted in Chicago, July options, at 4.65 cents. Crude grades of oil are in light supply, although equal to the demand. Prime white and butter oils at current quotations have no interest to buyers. The demand for inferior oils for abroad is more pronounced, choice qualities being correspondingly neglected. Liverpool refined oil is quoted at 17s. to 17s. 6d. per 112 pounds in export barrels, while Egyptian seed is firm and quiet. Many of the mills in the South have concluded to hold their remaining oil stocks, a prominent Texas firm having practically withdrawn from the market during the week. Stocks are gradually decreasing here, although the arrivals for the week are well up to the average. The demand for crude from the mills by Eastern refiners has been of a very moderate character with regard to requirements for white oil. England is practically out of the market, although the export trade has been sustained by Austria and France to a fair extent, 4000 barrels of oil in all being exported, of which 2000 were consigned to Trieste and 500 to Copenhagen. It is authoritatively announced that less oil is in the country than has been generally supposed, and it is safe to assume that while immediate betterment in valuations is improbable, no further decline may be expected. Herewith we quote the ruling quotations: Crude, prime, 21 to 21½ cents; crude, loose f. o. b. mills, 16½ to 19 cents; crude, off grade, 19½ to 20½ cents; summer yellow, prime, 25 cents; summer yellow, off grade, 25 cents; winter yellow, prime, 32 to 34 cents; yellow, butter grades, 27 to 28 cents; white, prime, 27½ to 28 cents, and soap stock, ¾c. to ¾c. per pound.

Cake and Meal.—The foreign demand has abated, owing to the restricted consumption in England and the Continent, while the gradually-decreasing stocks here have also contributed to the decline referred to. Prime to choice cake is quoted in Liverpool at £5 2s. 6d. to £5 6s. 3d. per ton. At interior and shipping points prices are unaltered and firm. Receipt of sixty tons of meal is reported from Boston, from which port the consignment of cottonseed reported in our previous letter has been forwarded to Liverpool.

Cottonseed-Oil Notes.

The annual meeting of the stockholders of the Merchants & Planters' Cotton Oil Co. was held last week at Houston, Texas, and re-elected the old board of directors. The directors held a subsequent meeting and elected T. W. House, president; J. E. McAshen, vice-president; B. B. Rice, secretary and treasurer, and J. S. Price, general manager.

The stockholders of the St. Mathews Oil Mill, at St. Mathews, Orangeburg county, South Carolina, held their annual meeting on the 13th inst., and found the mill in fine condition financially and otherwise. A dividend of 10 per cent. was declared. The following officers were elected: F. J. Buyck, president; J. E. Wanamaker, vice-president; P. Rich, manager and secretary; C. F. Zeigler, superintendent, and Walter Spigner, treasurer.

The demand for cottonseed oil in Houston, Texas, is reported light, and only a few large sales have been made by Texas mills during the week. The business at present is light compared with that of a year ago. Prices are steady and unchanged at 17½ cents for choice crude oil for butter oil and strictly prime crude oil; 17 cents for prime crude; off crude, 10 to 15 cents; prime butter oil, loose, 21 cents, and prime summer yellow oil, 19½ cents; prime cottonseed meal and cake, \$13 to \$15 f. o. b. at mill; cottonseed hulls, \$2.50 to \$3.

The market for cottonseed products is steady at New Orleans, with receivers' prices as follows: Cottonseed, \$9 per ton of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal jobbing at depot, \$17.25 to \$17.50 per short ton of 2000 pounds; for export per long ton of 2240 pounds f. o. b., \$19 to \$19.25 for current month; oilcake for export, \$19 to \$19.25 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime in barrels per gallon, 19½ to 20 cents; loose per gallon, 16 to 18 cents, according to location of mill; refined cottonseed oil, prime in barrels per gallon, at wholesale or for shipment, 23 to 24 cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 20 cents; foots, 1 to 1½ cents; linters, according to style and staple and irrespective of color—A, 4 cents; B, 3½ to 3¾ cents; C, 3 cents; ashes, none.

The Eagle & Phoenix Manufacturing Co., of Columbus, Ga., has resumed operations in its mill, with 1500 operatives at work, the recent strike having been settled. The company has just put in sixty new looms, and will put in more new machinery, replacing its present equipment entirely gradually, at a cost of about \$75,000.

The Industrial Association of Lynchburg, Va., has called the attention of prospective manufacturers to the advantages which that city offers for various industries. It has low freight rates, a good climate, plenty of raw material near at hand and cheap labor. J. Gordon Payne is president of the association; H. E. McWane, J. R. Gilliam, vice-presidents; H. P. Woodson, secretary and treasurer.

As a result of the meeting of foundrymen in Philadelphia the National Association of Foundrymen was formed with the following officers: President, Francis Schuman, Philadelphia; vice-presidents, F. W. Gibby, Boston; Robert G. Taylor, Pittsburgh; Henry Clay Evans, Chattanooga, Tenn.; W. S. Mocher, Texas; Irving Scott, San Francisco; Jos. Bese, Montreal, Canada; secretary, John Penton, Detroit, Mich.; treasurer, Howard Evans, Philadelphia.

MECHANICAL.

Handling Export Grain at Port Royal, S. C.

The competition now developing by the heavy exports of grain through Southern

we show herewith three engravings of the transfer plant of the Port Royal & Augusta Railroad Co., at Port Royal, S. C. In order to preserve the floor room of the warehouse for storage and freight-handling purposes, and as well to secure the necessary fall for spouting into the

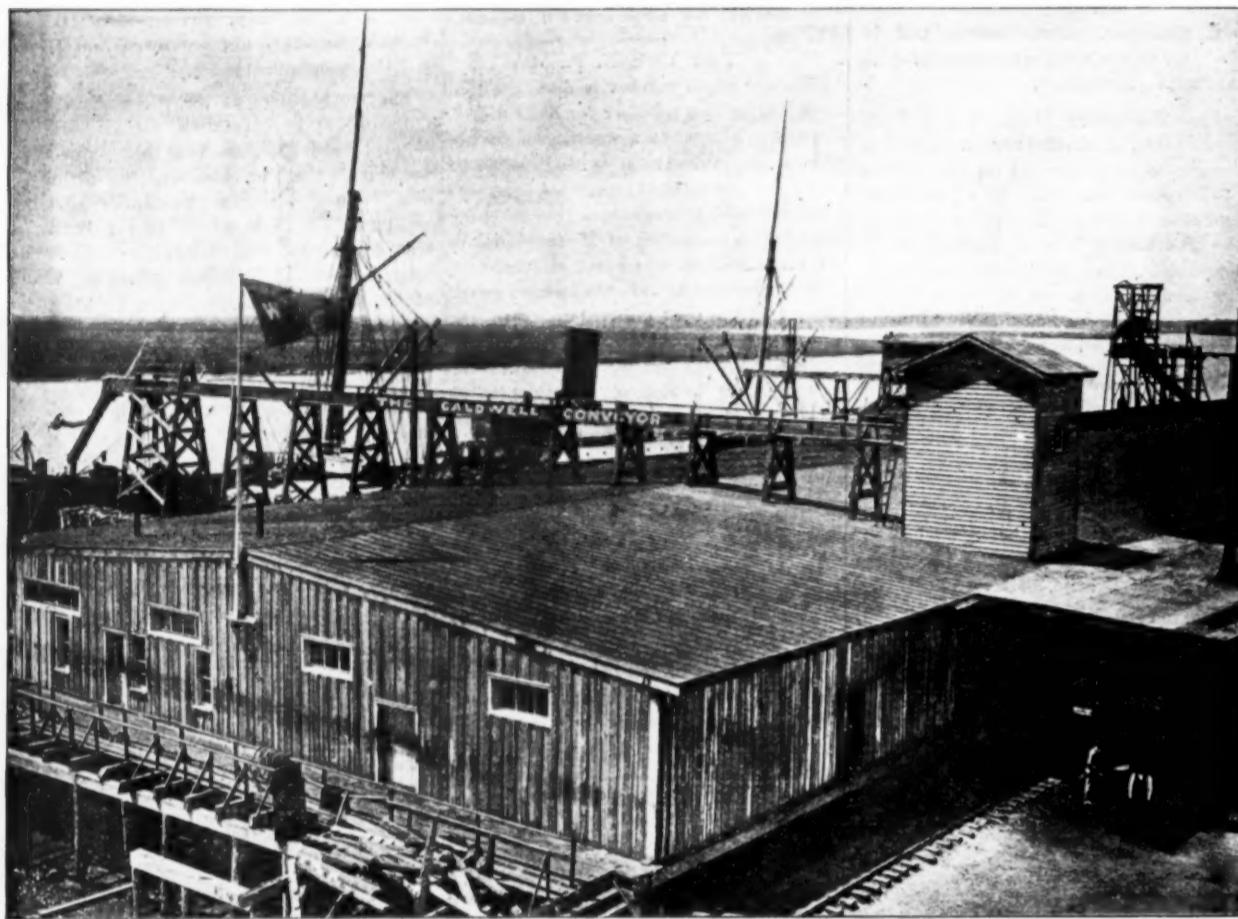
the vessel any overhanging device that was permanent would interfere with the rigging or upper works of the vessel, so that the device, to be acceptable, must be of such a character that it could be removed out of the way, and thus leave clear dock room for the vessels. The

sixteen inches in diameter and 200 feet long. The conveyor is shown supported by trestle-work along the roof of the warehouse. By an ingenious mechanical device the extreme or outer section of this line of conveyor which overhangs the vessel is so arranged that when the conveyor is idle, as it always is when grain is not being passed through it, it can be tilted up out of the way of the vessels either while being docked or clearing after receiving their load. This device, designed and constructed by H. W. Caldwell & Son Co., of Chicago, Ill., may be briefly described as follows:

The two last sections of conveyor are coupled by a square gudgeon and socket coupling. When it is desired to disengage the coupling the conveyor is moved forward and out of gear in the following manner:

The tilted section of conveyor is mounted on trunnion rollers, the shafts of which carry a pinion engaging in a short rack; keyed on the pinion shaft is a sprocket wheel, and by means of link belting this sprocket wheel is actuated by a hand-wheel at the level of the dock floor; by operating this hand-wheel the last section of conveyor moves forward and out of gear, and when in this position is locked by pawl and ratchet. Another hand-wheel is connected by chain and sprocket wheels with the trunnion shaft, and by this means the box is tilted out of the way and held in place by a simple locking device. When it is desired to connect up the last section of conveyor the operation is reversed. The conveyor has great capacity, carrying 5000 bushels per hour, and is a simple and efficient method of enabling the railroad company to transfer the corn from the cars to the ship's hold.

This is the only case within the acquaintance of the manufacturers, who



GENERAL VIEW OF THE PORT ROYAL & AUGUSTA RAILROAD DOCKS AT PORT ROYAL, S. C.

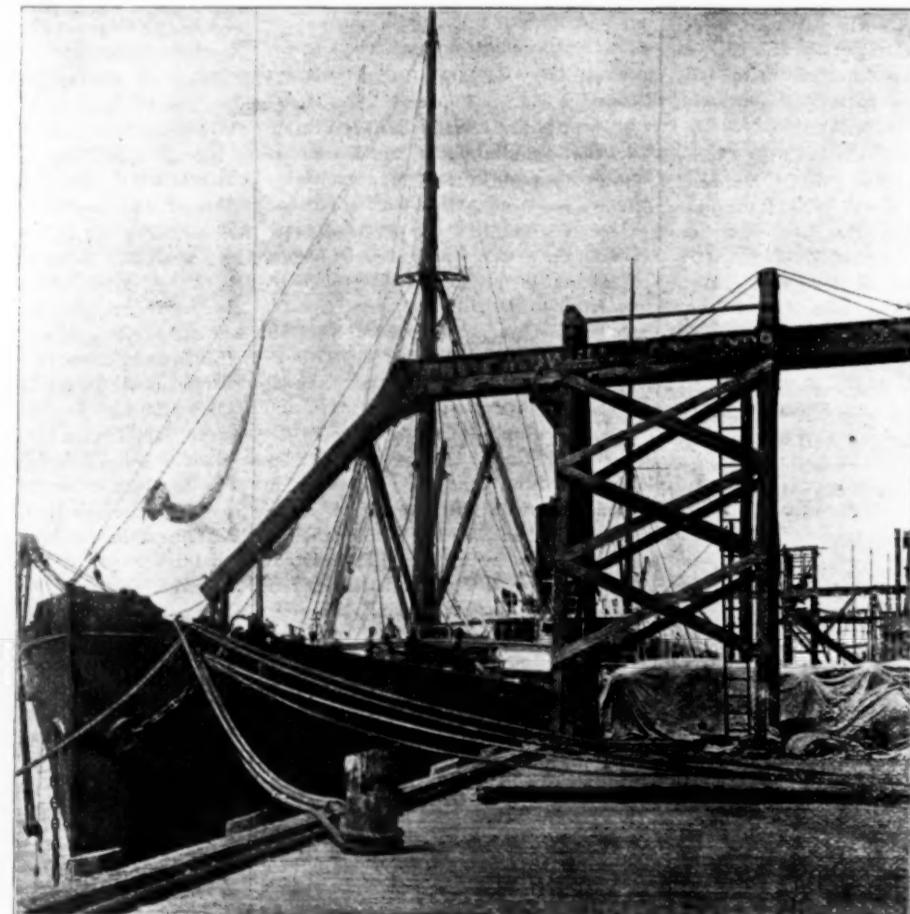
ports will doubtless prove advantageous to the grain-growing interests of the country at large, and aside from the special and local interests involved, should be looked upon as a distinct improvement which will prove beneficial to both the grain-growing and grain-handling interests of the country.

There are already erected at the main harbor points in the South many elevators and transfer houses of large capacities. Newport News, Port Royal, New Orleans and Galveston are doing a very heavy grain-shipping business, and other Southern ports are undertaking to increase their facilities in order to secure a share of this growing trade. Mobile is building a grain elevator, and Charleston and Savannah are making active efforts to turn some of the grain movement in their direction.

During the last nine months the exports of corn from New Orleans have been over 15,000,000 bushels, against 17,000,000 bushels from New York, thus giving New Orleans second rank in the corn-shipping business of the country for that period, and during the last three or four months over 20,000 carloads of Western corn have reached South Atlantic and gulf points.

The South is to be congratulated upon the diversification of business, both export and import, that will naturally follow the large movement of any product from their harbors, and the country at large will probably feel that the diffusion of such business through a number of our cities will be of greater benefit than the concentration of this traffic in any one or two cities.

As an interesting illustration of the mechanical method adopted at one of the Southern ports for effecting the transfer of grain from the cars to the steamers,



CONVEYOR IN POSITION FOR DELIVERING GRAIN.

vessel's hold, the grain has to be transferred over the roof of the warehouse. It was also required that the conveying device should reach out over the dock's line, so that the grain would flow freely into the hold. In docking and clearing

grain is shoveled from the cars into a conveyor running parallel to the tracks; this conveyor delivers into an elevator, the cupola of which is shown in the foreground of the first illustration. This elevator delivers into a Caldwell conveyor

have been engaged in the manufacture of the Caldwell conveyor for upwards of twenty years, in which a conveyor has been made detachable by means of a device operated at a distance from the conveyor itself.

Woodiline for Preserving Timber.

One of the most successful timber preservatives now in use is Woodiline, a composition of wood creosote and other antiseptics, which has been tested and used on the Pennsylvania Railroad for

placed in the tank. The steam for this piping is supplied by a small auxiliary boiler stationed nearby, which boiler also serves to drive the engine used in operating the crane for lifting the ties in and out of the tank. Unlike the processes used for the application of creosote to

mg coated with Woodiline with an ordinary brush, the material entering the wood from one-half to three-quarters of an inch. Woodiline was used in this way on the trolley posts of the Mt. Holly (electric) branch of the Pennsylvania. The cost for two coats over butt of post

docks, wharves, bridge and trestle timbers, for floors of breweries and stables, for porches, sills, joist, fence posts, and for all timber exposed to decay. Woodiline should be found equally useful.

The shingle stains, made by the same company, using Woodiline as a base, have been used on houses at Atlantic City, Beverly, N. J., and elsewhere, and have not only given a handsome appearance, but have preserved the timber in an effective way. As a coating for all exposed woodwork, and as a stain for freight-car bodies, the best of results are claimed.

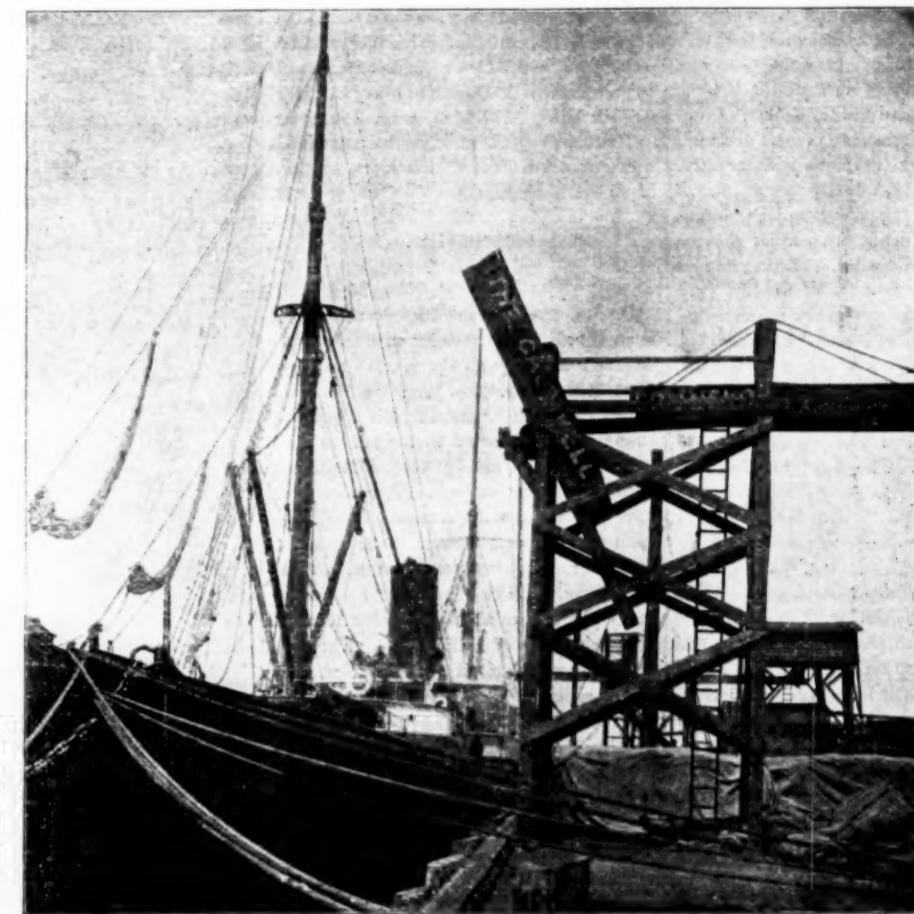
Woodiline is manufactured by the American Wood Preserving Co., of Philadelphia, Pa. F. A. Kummer, 23 South street, Baltimore, Md., is the Southern representative. Estimates and full information will be furnished on application to that office.

New Double Door Sticker.

A machine which is widely used in the large sash and door factories, and recognized as a valuable labor-saver, is illustrated herewith. It is the double door sticker made by the Rowley & Hermance Co., Williamsport, Pa.

This machine has been designed and built from entirely new patterns, and embodies distinctive improvements for sticking stiles and rails for doors and sash. It is strongly recommended for working both edges of door rails and muntins and sash bars and muntins or for working one edge and jointing the other at one operation.

A feature is the lower head which is placed in front, thus working the bottom part of the rail or stile first. The groove made in the rail is received by an adjustable table placed on the main bed and directly back of the under head to give a perfect surface and bearing while being operated upon by the top cutterhead. This extra table can be removed when the under head is used for jointing. This feature, it is considered, should recommend the machine to all door manufacturers as being the only practical way to work the top and bottom of the rail



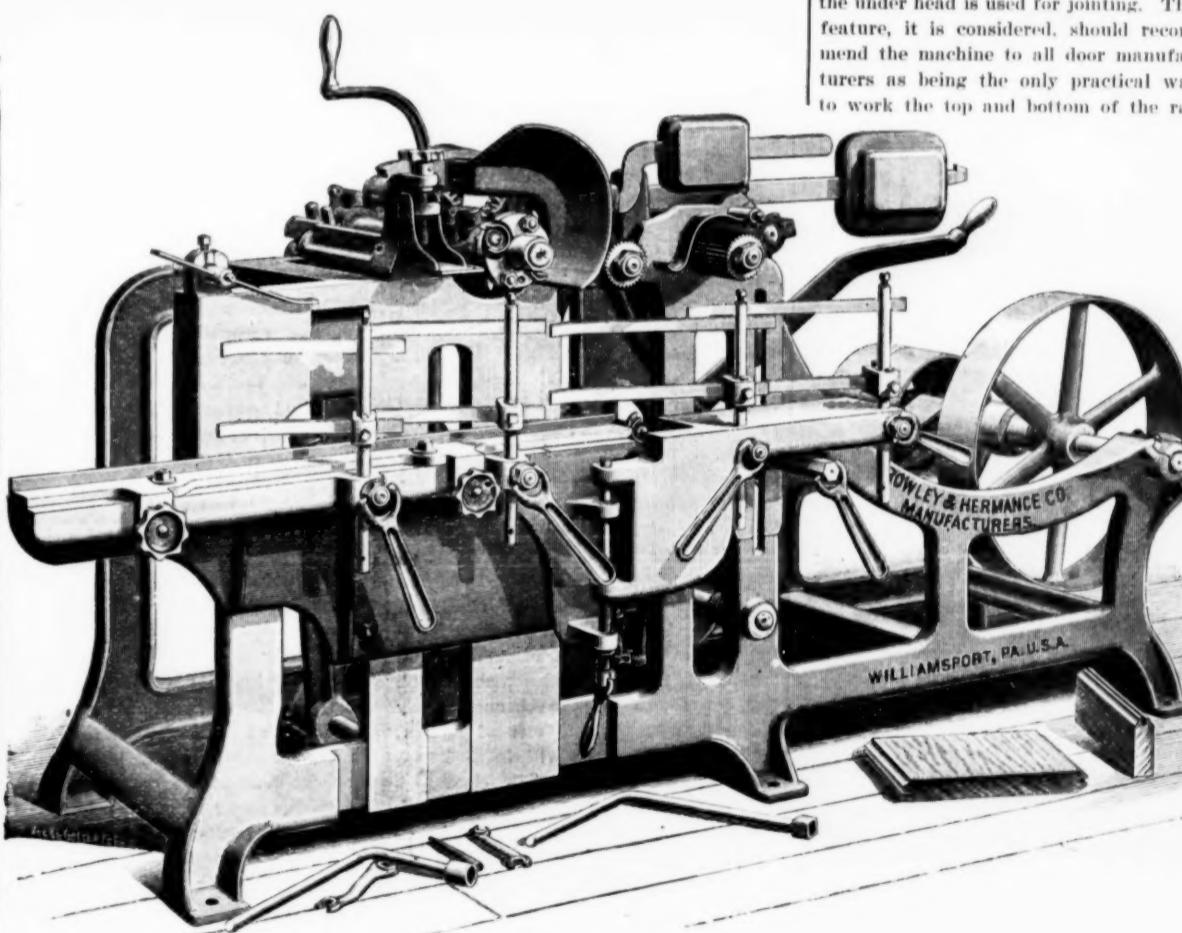
CONVEYOR DISCONNECTED.

thirteen years, giving entirely satisfactory results. Woodiline is a powerful antiseptic, and its great penetrating power causes it to penetrate deeply into the hardest woods, accomplishing by natural penetration what other methods accomplish by the more expensive process of forcing.

The Pennsylvania Railroad constructed at Pavonia, N. J., last year an iron tank for treating ties and heavy bridge timbers with Woodiline. Plans are now being made to improve this plant so as to secure a maximum capacity of 2000 ties per day. This is possible, since in an immersion of from ten to fifteen minutes an absorption amply sufficient to effectually preserve a tie is secured.

It is evident that the item of expense in preserving timber is the one which is most likely to influence the selection of a preservative, provided the cheaper method gives equally good or better results. If it is a fact that a number of the better preservatives will preserve, it is the cheapest of these preservatives, and the one most readily applied, which is likely to meet with favor among railroad officials. It is just here that the claims of Woodiline are strong. Equally strong arguments in favor of the process are the ease with which it may be applied to hard as well as soft woods, and the absence of complicated and expensive plants for treating the timber, which advantages are the result of Woodiline's especial penetrating properties.

The Woodiline is applied to the ties used by the Pennsylvania as follows: A large iron tank about thirty-five feet long, five feet wide and six feet deep, is built with its top about two feet above the surface of the ground. Inside of this tank is coiled one-and-one-half-inch steam piping for heating the Woodiline



No. 5 DOUBLE DOOR STICKER.

wood, pressure is not used in applying the Woodiline, its particular merit lying in the fact that it possesses in itself great penetrating power, so great, indeed, that the ties spoken of as having lasted for twelve years were simply treated by be-

is, including labor, about thirty cents. For two coats over the entire post the cost is, including labor, about sixty-five and one-half cents. This should result in a large economy to trolley roads and telephone and telegraph companies. For

and stile successfully at one operation.

The machine is designed throughout to meet all the requirements of a door sticker, and as one of the latest improved machines of its kind, is receiving careful consideration from manufacturers.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Lumber Directory.

Readers of the Manufacturers' Record who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., May 21.

In certain departments of the local lumber industry the volume of business has been better than usual during the past week, while in others the situation remains unchanged. There has been a better demand for yellow pine, and yardmen and planing mills have been in the market. In air-dried yellow pine, flooring boards are selling better, while box lumber is dull, with prices easy, but not notably lower. Kiln-dried North Carolina pine is in fair demand, and out-of-town buyers have been good purchasers during the week. White pine is steady, with no urgent demand and stocks ample for all requirements. Cypress is in fair request, with values unchanged. The hardwood market has shown but few changes, and the volume of trade in a local way continues light. There has been some inquiry from out of town, but the aggregate volume of trade is light. Exporters are not making many new shipments, and will not likely do so until some improvement takes place in the European markets.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

VIRGINIA AND NORTH CAROLINA PINE
5-4x10 No. 2, kiln dried..... \$16 00@ 18 00
5-4x12 No. 2, kiln dried..... 17 50@ 18 50
4-4x10 No. 1, kiln dried..... 15 00@ 15 50
4-4x12 No. 1, kiln dried..... 16 00@ 16 50
4-4 nar. edge, No. 1, kiln dried..... 13 50@ 14 00
4-4 wide edge, No. 1, kiln dr'd..... 17 50@ 18 50
6-4x10 & 12, No. 1, kiln dried..... 23 00@ 24 00
4-4 No. 1 edge floor, air dried..... 13 50@ 14 50
4-4 No. 2 edge floor, air dried..... 10 50@ 11 50
4-4 No. 1 12-in. stock, air dried..... 14 50@ 15 50
4-4 No. 2 12-in. stock..... 12 50@ 13 50
4-4 edge box or rough wide..... 8 50@ 9 50
4-4 edge box do. (ord. widths)..... 7 50@ 8 50
4-4 edge box do. (narrow)..... 6 50@ 7 50
4-4 12-inch rough..... 9 50@ 10 50
2-4 narrow edge..... 6 50@ 7 50
2-4 wide..... 7 50@ 8 50
2-4 10-inch..... 8 00@ 9 00
Small joists, 2½-12, 14 and 16
long..... 8 50@ 9 00
Large joists, 3-16 long & up..... 9 50@ 10 50
Scantling, 2x3-16 and up..... 8 50@ 9 50

WHITE PINE
1st and 2d clear, 4-4, 5-4, 6-4
and 8-4..... 48 00@ 50 00
3d clear, 4-4, 5-4, 6-4 and 8-4..... 43 00@ 44 00
Good edge culls..... 14 00@ 15 00
Good stock..... 16 00@ 17 00

CYPRESS.

4-4x6, No. 1..... 20 50@ 21 50
4-4x6, No. 2..... 14 50@ 15 50
4-4x6, 16 feet, fencing..... 11 00@ 12 00
4-4x6, rough..... 9 00@ 10 00
4-4 edge, No. 1..... 8 00@ 9 00
4-4 edge, No. 2..... 18 00@ 19 00
4-4 edge, No. 3..... 12 00@ 13 00
Gulf, 4-4, Nos. 1 and 2..... 28 50@ 30 50
Gulf, 6-4, Nos. 1 and 2..... 31 50@ 32 50

HARDWOODS—WALNUT.

5-8, Nos. 1 and 2..... 65 00@ 75 00
4-4, Nos. 1 and 2..... 80 00@ 90 00
5-4, 6-4 and 8-4..... 85 00@ 95 00
Newell stuff, clear or heart..... 85 00@ 100 00
Culls..... 20 00@ 30 00

OAK.

Cabinet, white and red, Southern, plain-sawed and good, 1
and 2, 8 inches and up, 12 to
16 feet long, 4-4..... 30 00@ 34 00
Quartered white, Western, 1
and 2 quality, all figured, 6
inches and up wide, 4-4..... 53 00@ 55 00
Culls..... 10 00@ 15 00

POPLAR.

Nos. 1 and 2, 5-8..... 24 50@ 25 50
Nos. 1 and 2, 4-4..... 28 00@ 30 00
Nos. 1 and 2, 6 and 8-4..... 32 50@ 33 50
Culls..... 13 00@ 16 00

SHINGLES.

Cypr. No. 1 h'rs, sawed, 6x20..... 7 25@ 7 75
No. 1 saps, sawed, 6x20..... 5 50@ 6 50
No. 1 hearts, shaved, 6x20..... 6 50@ 7 50
No. 1 saps, shaved, 6x20..... 5 25@ 5 50

LATHS.

White pine..... 2 70@ 2 75
Spruce..... 2 15@ 2 25
Cypress..... 2 15@ 2 25

Norfolk.

[From our own Correspondent.]

Norfolk, Va., May 18.

The past week has been quite dull in the general lumber market, and through-

out the whole North Carolina pine districts business is only moderate in volume. The shutting down of mills, thus reducing the output, will, of course, make considerable change in the general trade. The mills that have already signed the agreement to close down at certain periods are all adhering close to the contract, and the result will no doubt have a beneficial effect upon the market. Shipments during the past four months have been very heavy, but most of the lumber leaving port was to fill old orders. Common grades of lumber are in good demand, and 10-inch and edge are sold readily. There is no accumulation of stock, as planing mills are working up large quantities of lumber, while from other sources there is a brisk demand. The margin of profit to planing mills is at present very narrow, and manufacturers are quite dissatisfied with trade, while it is likely that mills will close down if prices do not improve. There is, however, a better trade expected by millmen generally, as reports from Northern and Eastern sections are more favorable. The local building demand for lumber is good, and from the number of houses in course of erection and city improvements in progress, large quantities of material will be required. In the woodworking factories here business is fair, and most of them are generally supplied with plenty of orders. The mills of Truitt & Co., at Capon, Va., recently burned, will be rebuilt as soon as practicable. The freight market here is very quiet, with rates easier and the offering of tonnage liberal. The rates ruling to New York and Sound ports are \$2.15 to \$2.25, and to Boston \$2.50 to \$2.75; to Baltimore \$1, and to Washington \$1.25. A charter of a schooner, 194 tons, is reported from Norfolk to Hackensack at \$2.25.

Savannah.

[From our own Correspondent.]

Savannah, Ga., May 18.

A fairly active market has prevailed here during the present month, and business in every department of the lumber industry continues good. There is a better feeling among manufacturers, and everyone engaged in business expects a fair trade during the summer. The saw mills, both here and throughout this section of the State, are well supplied with orders, and there is a good foreign and domestic demand for all desirable grades of material. The market closes steady, with quotations as follows: Ordinary sizes, \$11 to \$12; difficult sizes, \$13 to \$18; flooring boards, \$15 to \$22; shipstuff, \$16.50 to \$20, and sawn ties, \$10. The shipments of lumber and its products during the past week have been quite liberal, the following vessels having cleared: Schooners Johanna Swan with 241,515 feet pitch-pine lumber and 5900 crossties, measuring 263,689 feet, and S. P. Hitchcock with 495,355 feet of pitch-pine, both for Perth Amboy, N. J.; schooner Waltham with 428,586 feet of lumber, and barkentine Bruce Hawkins with 473,463 feet, both for Boston; the schooners Emily Northam with 275,399 feet of lumber, and William H. Swan with 583,363 feet, both for Philadelphia. The clearances for Baltimore were: Schooners Frank Vanderherchen with 411,037 feet of lumber, and Governor Hall with 430,000 feet of pitch-pine lumber. For New York, schooner Helen Montague with 307,000 feet of lumber, schooner Henry S. Little with 17,017 railroad ties, measuring 737,240 superficial feet, and by steamer Ferry Pass timber at 12 cents. There is a good inquiry for lumber, and prices are steady, with stocks ample for all requirements. The local demand from builders is fair, as a number of improvements are in progress. A number of houses are being erected, and the real-

Portland, Maine. To the West Indies and Windward rates are nominal; to Roros \$12 to \$13, Buenos Ayres and Montevideo \$10 to \$11, to Rio Janeiro \$14, to Spanish and Mediterranean ports \$11.30 to \$11.50, and to United Kingdom for orders nominal for lumber at £4 5s. per standard. Steamer rates to New York and Philadelphia are quoted \$7, to Boston \$8 and Baltimore \$5. Charters are reported of a schooner, 366 tons, from Brunswick to Philadelphia at \$4.25; a British bark, 1270 tons, from Savannah to Santos at \$14.50 net, and a schooner, 293 tons, from Fernandina to Pawtucket at \$5 and towage.

Jacksonville.

[From our own Correspondent.]

Jacksonville, Fla., May 19.

During the present month there has been considerable activity in lumber circles at this port, and the market shows a good deal of strength. Among those engaged in this industry there is a greater confidence manifested in the future, and manufacturers are generally satisfied with the present outlook. Prices are firm, with a pronounced demand, and for all desirable grades of material values show a higher tendency. Saw mills are at present all fully employed, having as much business as they can well attend to. The shipments of lumber during the past week are reported as follows: For New York, schooner Actna with 280,000 feet of yellow-pine lumber, and schooner J. B. Holden with 320,000 feet. The schooner Thomas Winsmore sailed for Philadelphia with 230,000 feet. The schooner Red Wing cleared for Atlantic City with 341,000 feet. The steamers of the Clyde Line are doing good service, and have on an extra steamer in order to take all freight offering. The steamer George W. Clyde cleared this week with 500,000 feet of lumber, 250,000 shingles and other cargo. The steamship Iroquois sailed for New York on the 13th inst. with 250,000 feet of lumber, 1800 bundles of shingles, 4000 crossties and other merchandise, and the steamship Comanche cleared for New York with 400,000 feet of lumber, 2500 crossties and 3000 bundles of shingles. The following vessels were loading lumber on the 18th inst.: Schooners Isaac N. Kerlin for Philadelphia, Celia F. and Edward G. Hight for New York, and schooners Robert W. Dasey and Amelia P. Schmidt for Baltimore. A charter is reported of a schooner, 354 tons, from Jacksonville to New York at \$4.90. The business in crossties is quite active, and several vessels are expected to load during the present month with part cargoes of ties.

Pensacola.

[From our own Correspondent.]

Pensacola, Fla., May 19.

The situation in almost every line of business here indicates greater activity as the summer approaches, and in the lumber and timber market there is a good volume of business. It is stated that nearly \$40,000 was paid out by the banks of the city on Saturday last for labor in the bay during the week. This was only for work done by the stevedores in loading timber and lumber cargoes, and the indications are that there will be an active business during the summer. The general market for timber is unchanged, and prices continue firm, with a good demand. Sales were made during the week of Choctawhatchie stuff at 11½ cents, and Ferry Pass timber at 12 cents. There is a good inquiry for lumber, and prices are steady, with stocks ample for all requirements. The local demand from builders is fair, as a number of improvements are in progress. A number of houses are being erected, and the real-

estate transactions during the week have been large. Houses are in good demand, and vacant ones are scarce. The movement in lumber and timber during the past week is reported as follows: Steamship Madrileno for Liverpool with 75,733 cubic feet of sawn timber, 1946 cubic feet of poplar, 270 cubic feet of ash and 958,000 feet of lumber by Keyser & Co.; steamship Record for Liverpool with 105,000 cubic feet of sawn timber by Wittich & Co.; steamship Palantino for Liverpool with 123,956 cubic feet of sawn timber by Heyer Bros.; steamship Ernesto for Manchester with 1,645,000 superficial feet of sawn timber and 48,000 feet of lumber by Keyser Bros.; steamship Forrest Brook for Dordrecht with 804,000 superficial feet of sawn timber and 1,209,000 feet of lumber by Hagerman Lumber Co. and others; bark Ausio for Bilbao with 158,000 superficial feet of sawn timber and 150,000 feet of lumber by H. Baars & Co. Among the lumber charters reported is a Norwegian ship, 1199 tons, Pensacola to Buenos Ayres, \$12.50 net; a British steamer, 1168 tons, Pensacola to Buenos Ayres at \$15.25 form; a foreign bark, Pensacola to Santos at \$16.50, \$2 form, and a schooner from Pensacola to Boston at \$5.75.

Mobile.

[From our own Correspondent.]

Mobile, Ala., May 18.

The volume of business shows a slight decrease during the past week, but, as usual at this period of the season, there is a lull in the lumber and timber trade. Business in all departments of the industry was very satisfactory for the month of April, while for the current month the export business has been quiet. In timber the demand has diminished considerably, and at the moment the market is quiet, with values firm. Sawn timber is still quoted 11 to 11½ cents per cubic foot, 40-foot basis, while contracts are made at the same figure. Hewn timber, when placed upon the market, will bring 12 cents per cubic foot on basis of 100 cubic feet, average B1 good. Hewn oak by contract 15 to 18 cents per cubic foot. Sales of sawn timber are reported at 10½ to 11½ cents. In lumber the demand is lighter than usual, and the Cuba and South American trade is rather flat for the time being. There is considerable activity in the saw-mill sections adjacent to the city, and millmen as a general rule look forward to a good demand, with a corresponding stiffening of prices. At the meeting a few days ago of the Gulf Coast Lumber Co., held in this city, there was very little business of importance transacted, and what was made public showed a satisfactory condition of affairs. In the shingle industry there seems to be no decided improvement, and at present there are only two mills running. Among the clearances from this port during the past week were the following vessels: Bark Saheim for Amsterdam, Holland, with 18,330 cubic feet of sawn timber and 13,189 superficial feet of lumber; bark Mersey for Buenos Ayres, A. R., with 714,409 feet of lumber; steamer Managua for Livingston, Guatemala, with 39,377 feet of lumber, and schooner Nason for Ruatan, Spanish Honduras, with 10,000 feet. The exports of lumber since September 1, 1895, from this port aggregate 44,896,984 feet, against 45,458,555 feet for the corresponding period last year. The shipments of sawn timber for the same period amount to 1,377,694 cubic feet, against 1,423,778 last year. Hewn timber exported amounts to \$99,092 cubic feet, against 1,357,197 last year. There is a scarcity of desirable tonnage, and rates from this port are steady and unchanged, with no charters

reported. A schooner, 295 tons, was reported taken in New York last week to load at Pascagoula for Colon at \$9.

Beaumont.

[From our own Correspondent.]

Beaumont, Texas, May 16.

The conditions in the lumber world, as they are apparent in this district, have not improved to any appreciable extent during the past week. Orders are still scarce, especially for yard stock, and there does not seem to be any prospect for an immediate betterment of the situation. It was thought that at the Lumber Manufacturers' meeting, which assembled in Houston on the 12th inst., some definite policy would be adopted looking to the improvement of trade. However, as far as can be learned, it seems that there was only a discussion relative to the advisability of running the mills on half time. While this movement, if adopted, would be a very important step in the way of advancement, the fact remains that it was not fully decided on, and it will probably receive more attention at the next meeting, which is to be in Houston during the month of June, the early part.

Shipments have been fairly good, but have depended on orders that the mills have had on their books for some time, and quite a number of them being for export shipment. While the volume of business in the export line is not so great as it was this time last year, it is encouraging to note that the prices obtained on this class of material are much better than prevailed at that time. A year ago the Sabine Pass wharves were crowded with vessels for the River Platte, as many as four loading for one company at the same time at this port. Now the cargoes going forward are more scattered in their destinations, some being for Europe, others for Brazil and a good many for Mexico.

Mr. C. M. Crawford, a knight of the grip, who travels Texas and the Indian Territory for large lumber manufacturing concern, was in the city today, calling on old friends. In an interview with Mr. Crawford, he stated it was his opinion that the present stagnation could not last over thirty to forty days longer, and that during the months of September, October and November an immense trade would be felt by all mills.

Mr. G. H. Mallam has compiled some valuable statistics recently, relative to the output of Southern Pacific mills for recent years, and as any lumberman can see at a glance, these are quite valuable. Below will be found a copy of Mr. Mallam's figures:

Output of all mills on Southern Pacific Railway, in Louisiana and Texas, of long-leaf yellow pine for year 1895, log measure:

Beaumont, 1894, 53,694,122; 1895, 55,600,915. S. & E. T. Railway, 1894, 102,889,572; 1895, 119,210,165. Orange, 1894, 77,039,646; 1895, 82,059,176. Westlake and Vinton, 1895, 38,952,584. Lake Charles, 1894, 88,649,555; 1895, 54,455,936. Total, 1894, 322,272,895; 1895, 350,278,776. Estimated totals, board measure, 1894, 370,613,829; 1895, 402,820,592. Number of cars, on basis of 11,000 feet to car, 1894, 33,692; 1895, 36,620.

The Beaumont Lumber Co. is now no longer a common circular-saw mill. The change herein recorded has been pending for some time. It has been referred to in every newspaper connected with Southern yellow pine. It is now a band-saw mill of the most modern type, and is in a condition to turn out lumber as true as it can be cut by anything in the shape of a saw. While the mill has not, of course, cut as much as it expects to when it gets to running regularly, it has yet turned out

40,000 feet per day for the first week, which is quite a record.

Mr. Sam Park, Mexican agent for the Consolidated Export Lumber Co., was in town during the week, on a visit to his company.

Mr. G. H. Mallam, the newly elected president of the Texas and Louisiana Lumber Manufacturers' Association, has been suffering quite severely lately from an attack of muscular inflammatory rheumatism, and has had to take a trip to Hot Springs.

Mr. John N. Gilbert, of the Beaumont Lumber Co., was up at Nona during the past week.

Mr. W. A. Priddie, of the Reliance Lumber Co., was out in the State the past week, endeavoring to run across some stray orders. He found a few.

Lumber Notes.

The Fischer Lumber & Manufacturing Co., of New Orleans, finished loading last week the schooner Hattie C. Luce with 400,000 feet of cypress lumber for Baltimore.

Large cypress rafts are being made up at the mouth of the Ocklawaha river for the Wilson Cypress Co., of Palatka, Fla. The average amount of timber in each raft is about 500,000 feet.

The planing mill of the Williamsport & Chesapeake Company, near Sparrow's Point, Md., was destroyed by fire on the 14th inst., with its contents, causing a loss of about \$15,000, partly insured.

Mr. E. C. Long, of St. Paul, Minn., is on a visit to Brunswick, Ga. Mr. Long is a member of the lumber firm of George S. Baxter & Co., of that city. Mr. Nils Gregertson represents the firm at Brunswick.

Judge Lewis, of Clendinen, W. Va., who recently purchased 15,000 acres of timber land on Elk river and its tributaries, will at once commence cutting timber and otherwise develop his valuable property.

G. W. Truitt & Co.'s planing mill and box factory at Capron, Southampton, Va., were burned on the 12th inst. The loss is placed at \$6000, with a partial insurance. The mills will be rebuilt as soon as practicable.

The new furniture factory projected by Mr. Frank Aiken and others at Knoxville, Tenn., will shortly be ready for operating. The machinery is arriving and being set up. The factory will employ from fifty to sixty men.

The large planing mill of Thomas Leonard, of Elkins, W. Va., with the entire contents of the lumber-yard adjoining, was entirely destroyed by fire last week. The loss is estimated at from \$8000 to \$10,000, with no insurance.

A charter was granted last week to the E. A. Franklin Churn & Implement Manufacturing Co., of Austin, Texas. The capital stock is \$50,000. The incorporators are James R. Johnson, M. S. Swain, J. W. Swain and E. A. Franklin.

The Consolidated Lumber Co., of Spout Springs, Harnett county, North Carolina, is shipping large quantities of lumber to Wilmington by the Cape Fear & Yadkin Valley Railway. It is being exported with quick dispatch upon arrival at Wilmington.

The Greenville Lumber Co.'s entire saw-mill plant at Greenville, N. C., was burned on the 11th inst., with a large quantity of lumber. The fire originated from a defective flue in the dry-kiln. The loss is estimated at \$50,000, with insurance \$10,000.

The Chieftain Cypress Co. was incorporated at Ocala, Fla., last week with a capital stock of \$150,000. The incorpo-

rators are Joseph W. D. Stearns, Villert Salter and Loren L. Ellsworth, all of Brooklyn, N. Y. Its offices will be in New York and Ocala, Fla.

The Oak City Cooperage Co., of Bainbridge, Ga., has had a very successful season so far. The company has sent out over 10,000 spirit barrels, and is now turning out over 200 barrels a day. It is said the company will have to increase its force to supply the demand.

The new band mill of the Beaumont Lumber Co., at Beaumont, Texas, was started up last week. So far the best day's work has been 40,000 feet, but it is expected, when the machinery is working smoothly and all parts properly adjusted, that the cut will reach nearly 60,000 feet.

Mr. Sam Park, Mexican agent for the Consolidated Export Lumber Co., of Beaumont, Texas, visited that city last week to confer with the officers of that company. He reports a fair demand for lumber in Mexico, and anticipates a good business during the summer and fall of the present year.

The saw and planing mills of W. H. Sikes, of Swann's Station, on the Cape Fear & Yadkin Valley Railway, in Harnett county, North Carolina, were burned last week. The entire plant was consumed, with a large quantity of lumber. The loss is between \$5000 and \$8000, and the only insurance is \$1000 on stock.

The Sterling Lumber Co., composed of Eastern capitalists, who recently purchased 15,000 acres of timber lands in Menefee county, Kentucky, is preparing to build a narrow-gage railroad from Midland City, on the Chesapeake & Ohio Railroad, a distance of ten or twelve miles to Beaver, where a large mill will be built.

The receipts of lumber at the port of New Orleans for the week ending the 14th inst. amounted to 1,806,000 feet, and since September 1, 1895, the receipts aggregate 71,589,128 feet, against 57,938,890 feet for the corresponding period last year. Receipts of other wood products were: Shingles, 405,000; laths, 150,000; oak staves, 72,404, and cypress staves, 22,000.

A disastrous fire raged last week on the extensive timber lands of Mabie & McLure, in the Roaring Creek valley, in Randolph county, W. Va. In the Middle Fork tract the timber and other property is said to be a total loss. The loss is estimated at over \$500,000. Forest fires broke out afresh near Egg Harbor City on the 18th inst. and another at Pomona. The fires are attributed to incendiaries.

Nearly 40,000 tests by the forestry division of the Department of Agriculture have established these facts: Seasoned timber is twice as strong as green, but weakens with absorption of moisture; large and small timbers have equal strength per square inch if equally perfect; knots weaken a column as well as a beam; long-leaf pine is stronger than average oak; bleeding does not impair timber.

A charter was granted last week to the Richmond Woodworking Co., of Richmond, Va. The company will make wire-end butter-dishes, trunks, etc. The capital stock is to be not less than \$5000 or more than \$50,000. The officers are: President, George Pope, Brooklyn; vice-president, F. Sitterding; secretary and treasurer, George L. Bidgood; directors, H. K. Terry and Thomas H. Betty, and officers.

A pile-driver is now at work at the mills of the Lutcher & Moore Lumber Co., of Orange, Texas, on the new timber tram 12x200 feet in the river, to be used as a shipping tram for vessels. The Lutcher & Moore Lumber Co. has also chartered

the steamship Pensacola, and will put her in service between Sabine Pass and New York. She is due to take on cargo on the 26th inst., and will take out 1,000,000 feet at a load.

Mr. Guy H. Mallam, of the Texas Tram & Lumber Co., of Beaumont, Texas, reports the cut of long-leaf yellow-pine mills located on the Southern Pacific Railway in Texas and Louisiana for the past four years as follows: For 1895, Beaumont mills, 55,600,915 feet; Sabine & East Texas Railway, 119,210,165 feet; Orange mills, 82,059,176 feet, and mills at Westlake, Lake Charles and Vinton, 93,408,520 feet, making a total of 350,278,776, against 322,272,895 feet in 1894, and 362,079,511 feet for 1893, against 349,023,810 feet in 1892.

The stockholders of the Kentucky Wagon Manufacturing Co. held their annual meeting last week in Louisville, and declared a quarterly dividend of 1½ per cent. The following directors were elected: James D. Taggart, James A. Leech, Jno. H. Ward, Edmund T. Hulsey, A. L. Smith, Stephen H. Shallcross, Jas. S. Pistle, W. G. Nones and James W. Kennedy. The directors met immediately and re-elected the old officers, as follows: W. C. Nones, president and general manager; James A. Leech, vice-president; James W. Kennedy, secretary and general superintendent, and Thomas Malone, treasurer.

The third annual meeting of the Texas and Louisiana Lumber Manufacturers' Association met in Houston, Texas, on the 12th inst., with J. S. Rice in the chair and R. E. Kelly, secretary. Secretary Kelly's report showed that in the Southern Pacific saw-mill district, which includes the Texas, New Orleans, Sabine and East Texas and Louisiana Western Railways, the cut of lumber during 1892 aggregated 349,923,810 feet; during 1893, 362,679,511 feet; in 1894 it amounted to 323,272,895 feet, and in 1895 to 348,388,176 feet. The annual election of officers resulted as follows: Guy H. Mallam, of Beaumont, president; Chester Brown, of Lake Charles, vice-president; W. M. Rice, of Hyatt, treasurer; R. E. Kelly, of Beaumont, secretary. Directors, G. Bedford Moore, of Orange; William Weiss, of Beaumont; W. T. Carter, of Barnum; Ed Rand, of Atlanta; J. H. Karth, of Kelly's; J. A. Bentley, of Zimmerman, La.; Percy Allen, of Houston; Charles Miller, of Westlake, La., and W. G. Bering, of Velde, Texas. The association adjourned to meet again on the second Tuesday in June.

Secretaries Olney and Carlisle recently consented, for the first time since they held office, to be photographed seated at their desks. The pictures were taken at the request of the Ladies' Home Journal, and will be used to illustrate ex-President Harrison's article describing the workings of the State Department in the July number of that magazine.

The Verbalist. A manual devoted to brief discussions of the right and wrong use of words, and to some other matter of interest to those who speak and write with propriety. 18mo. Cloth, \$1.25.

This is a revised edition, just issued by Messrs. D. Appleton & Co., of New York, of Mr. Alfred Ayres's manual devoted to brief discussions of the right and wrong use of words. This standard work, which ranks as an unquestioned authority, is attractively arranged, handsomely printed and in every respect worthy of the position which it holds in public estimation. The right use of the English language is worthy of the careful attention of every man, and this work is so arranged as to make its study a delight.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD
seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

ALABAMA.

Birmingham.—The firm of Harris & Williamson has been incorporated by W. C. Harris, Frank Williamson and J. F. Rushton; capital stock \$8000.

Birmingham—Steel Mill.—The Alabama Rolling Mill Co. writes the Manufacturers' Record that there is no truth in the report, mentioned last week, that it will erect a steel mill.

Fort Payne—Clay Works.—It is stated that New York parties will develop clay lands and erect works. C. O. Godfrey can be addressed.

Geneva—Bridges.—Several bridges will probably be constructed. Address E. R. Malone.*

Idaho—Gold Mines.—Joshua Franklin is developing gold mines near Idaho. He has ordered a five-foot Huntington mill, and expects to have it and a five or ten stamp mill in operation by June 15.

Mobile—Sewerage System.—The Brownwell Improvement Co., whose plans for a sewerage system have been adopted by the city council, has submitted a communication, which has been referred to the sewerage committee. The communication gives in detail the particulars of the sewer system and plant, estimated to cost \$400,000, and makes a proposition for the construction of same.

Mobile—Lumber Plant.—A dispatch from Frankfort, Mich., states that the Crane Lumber Co., of that city, has leased a water frontage of 1000 feet at Mobile, on which to erect a large planing mill; several thousand acres of timber lands have also been leased.

ARKANSAS.

Little Rock—Mercantile.—J. P. Franklin and others have incorporated the H. J. George Grocer Co., with a capital stock of \$10,000.

Paragould—Telephone Company.—A. A. Knox, F. Hoffman, M. F. Collier and others have incorporated the Paragould Telephone Co.

Siloam Springs—Cold-storage Plant.—It is reported that Dr. D. W. Howard, of Independence, Iowa, and W. S. Van Orsdel will erect a cold-storage plant.

FLORIDA.

Avon Park—Cannery.—Henry B. Todd will erect a cannery.

McDonald—Distillery.—Wilde, Norman & Co. have recently erected a turpentine distillery.

Ocala—Lumber Mills.—The Chieftain Cypress Co. has been organized by Joseph W. D. Stearns, Villert Salter and Loren L. Ellsworth, of Brooklyn, N. Y., with a capital stock of \$150,000; offices in New York and Ocala.

St. Augustine—Water Works.—The city council has passed an ordinance ordering an election to vote on issuing \$65,000 of bonds for the construction of water works. Address the mayor.

St. Petersburg—Electric-light Plant, Water Works, etc.—The city council has granted franchise for water works and electric-light plant to the West Coast Development Co.

GEORGIA.

Atlanta—Implement Works.—The Southern Agricultural Works is having plans prepared for the additions recently noted. The present buildings will be enlarged, and a new one 140x70 feet erected, and considerable machinery added. Three hundred men are now employed, and nearly 500 will be employed when the improvements are completed.

Atlanta—Bicycle Works.—The Atlanta Bicycle and Machine Works, reported last week as incorporated, has formally organized, with Frank W. Lewis, of Indiana, as president; A. J. West, of Atlanta, vice-president; Arthur Green, of Indiana, secretary and general manager, and J. I. De Sette, of Indiana, treasurer. These, together with B. F. Nysewander, the company's attorney, constitute the first board of directors. The company has purchased a manufacturing property for \$25,000, and will convert same into a bicycle factory, expending \$25,000 in improving the buildings, etc. The machinery is now on its way to Atlanta.

Augusta—Mercantile.—A. W. Dutton and others have incorporated the Augusta House Furnishing Co., with a capital stock of \$10,000.

Augusta—Cotton Mill.—A report states that the John P. King Manufacturing Co., lately mentioned as obtaining 1200 additional horse-power from the city canal, will erect an additional mill building and put in nearly 30,000 spindles.

Barnesville—Electric-light Plant.—The city will this week hold the election for electric-light bonds. Address the mayor.

Columbus—Cotton Mill.—The Eagle & Phoenix Manufacturing Co. has just put in sixty looms, and will put in more machinery, gradually replacing its entire present equipment, at a cost of about \$75,000.

Dawson—Electric-light Plant.—A Supreme Court decision having decided favorably as to the \$10,000 of bonds to be issued by Dawson, arrangements for the electric-light plant will be completed. Address the mayor.*

Forsyth—Water Works.—Contract for the construction of the water works has been let to J. N. Hazlehurst & Co., of Atlanta.

Fort Gaines—Electric-light Plant.—There is talk of the erection of an electric-light plant. E. A. Greene is said to be interested.

Milledgeville—Telephone System.—C. W. Richter and G. C. Smith have purchased the Milledgeville telephone system and will improve same.

Sandersville—Telephone Exchange.—The Sandersville Telephone Exchange will increase its system from twenty-five to 100 phones, extend lines, etc.*

Savannah—Car Works.—Application has been made for the incorporation of the Georgia Car & Manufacturing Co., with a capital stock of \$500,000. The company is composed of capitalists of Savannah, and they have recently purchased a car plant at Huntingdon, Pa., which will be removed to Savannah, and capital added until the full capital stock is invested in the plant and business.

It is said that the site for the plant has been purchased from A. R. Fawcett for \$15,000. The plant will include car building and repairing branch, vulcanized wood factory, car-wheel foundry, axle foundry, etc.; erection of buildings is to be commenced at an early day.

KENTUCKY.

Bell and Other Counties—Coal Lands.—B. R. Hutchcraft, of Winchester, Ky., has purchased about 30,000 acres of lands in Bell, Knox and Clay counties. Heavy beds of cannel coal are said to be in the section purchased by Mr. Hutchcraft, and his intention doubtless is to develop the fields.

LOUISIANA.

Abbeville—Sugar Refinery.—The Rose Hill Planting Co. will make extensive improvements to its refinery.

Monroe—Cotton Mill.—The Monroe Cotton Mills, reported last week, has elected D. W.

Pipes, president; Uriah Millsaps, vice-president, and T. O. Brewer, secretary.

New Orleans—Blacksmith Shops.—Joseph Kohl, G. A. Schloegel and Joseph W. Haar have each petitioned the city council for permission to operate blacksmith shops.

MARYLAND.

Baltimore—Car Works.—The South Baltimore Car Works will increase its working force by about 250 hands.

Baltimore—Bolt and Nut Works.—James Armstrong & Co. will rebuild at once their burned bolt and nut works.

Baltimore—Water System Extensions.—Samuel Gray, of Providence, R. I., consulting engineer of the City Water Board, has completed plans for extensions in the annex. About \$2,000,000 will be expended.

Baltimore—Boat Works.—Cortlandt de Lacy, D. T. Mallory, J. J. Snyder, R. W. Applegarth and F. A. Mershon have incorporated the North Point Construction Co., to manufacture boats, etc.; capital stock \$5000.

Baltimore—Resort.—Joseph P. Smith and others have incorporated the Point Breeze Co., with capital of \$3000, to conduct a hotel, etc.

Brunswick—Water Works.—The city council has appointed May 28 for voting on the proposed \$15,000 water-works bonds.

Easton—Woodworking Factory.—W. L. Hubbard is endeavoring to complete arrangements for the formation of a company to erect a factory for making berry baskets, crates, etc.

Hagerstown—Water-power, Electric-power, etc.—The city council has granted franchise to Powell Evans, of Philadelphia, Pa., giving him the exclusive right to supply Hagerstown factories with electric power for ten years. Mr. Evans owns the Hagerstown Electric Light Plant, which he is now enlarging, and later on he intends to construct a water-power plant at dams Nos. 4 and 5 on the Potomac river, to cost over \$150,000. Address Mr. Evans, care of Hagerstown Electric Light Plant.

Lonaconing—Coal Mine.—The George's Creek Coal & Iron Co. is opening a new coal mine, employing fifty men.

MISSISSIPPI.

McComb City—Shirt-waist Factory, etc.—The shirt-waist factory recently noted will be established and operated by Wilson, Buschelt & Co., of Chicago and Aurora, Ill. About fifty hands will be employed, and a steam laundry will be established in connection with same.

Vicksburg—Ginnery.—The Advance Mill & Gin Co. will erect a ginnery of seventy-five bales capacity; also a corn mill will be attached.

Yazoo City—Cotton Compress and Warehouses.—The Alliance, Standard and Yazoo Warehouse Companies and one other have consolidated and will erect a cotton compress, of Bierce hydraulic pattern, to cost \$40,000.

MISSOURI.

Cameron—Water Works.—James A. Haskell will prepare plans for the city's proposed \$25,000 water works. Address the mayor.

St. Louis—Water Works.—The city council has adopted ordinances appropriating \$175,000 for the construction of a new main and other improvements.

St. Louis—Furnace Works.—The Thomas Smokeless Furnace Co. has been organized, with a paid-in capital of \$10,000, and elected August A. Busch, president; Theodore Plummer, vice-president and manager, and J. F. Flaherty, superintendent of construction. This company owns letters patent on a furnace which is said to be absolutely smokeless, besides being a fuel saver; the furnace is constructed of fire-brick and tile; home office, Room 9, Equitable Building, St. Louis.

St. Louis—Gravel Company.—J. R. Willis and others have incorporated the Jefferson River Gravel Co., with a capital stock of \$20,000.

St. Louis—Water Works.—The city water department will erect an entire new plant for the Bissell Point water system, at a cost of about \$300,000.

NORTH CAROLINA.

Charlotte—Cigar Factory.—S. Wittskow-sky will erect a cigar factory building, to

be occupied by Judge Eckstein, C. C. Hook is to prepare the plans.

Charlotte—Cotton Mill.—The Victor Cotton Mills will add 1000 spindles to its present 12,000; contract has been let.

Charlotte—Sash-cord Factory.—O. A. Robbins & Co. will add, it is reported, new machinery.

Charlotte—Bridges.—The county commissioners will contract for the construction of two steel bridges.*

Charlotte—Cotton Mill.—The O. A. Robbins Co. has been formed and purchased the business of O. A. Robbins & Co. The new company will continue the manufacture of sash cord, and erect a 2000-spindle mill for making yarns, which it will convert into different specialties.*

Cherryville—Cotton Mill.—A company has been organized to erect a cotton mill. Jacob Black is president, and J. M. Rhodes, secretary-treasurer; \$40,000 subscribed.

Davidson County—Gold Mines.—The Silver Valley gold-mining property has been sold to Baltimore and New York capitalists and reorganized as the Silver Valley Mining Co. The property contains 1000 acres of gold and silver bearing lands. George L. Wellington, of Cumberland, Md., is president of company.

Dillsboro—Tannery.—The Frank Jarrett Company will establish a tannery of 10,000 hides capacity yearly; to be operated by water-power.*

Durham—Cigar Factory.—A. J. Draughan (Wright Building) will establish a cigar factory.

Greensboro—Mattress Factory.—James Callum will establish a mattress factory.

Greenville—Lumber Plant.—The Greenville Lumber Co. will probably not rebuild its burned plant before late this year.

Tarboro—Water System.—Smith & Neal intend to construct a system of water supply from artesian wells, at a cost of about \$60,000; will probably extend piping about five miles.

Taylorville—Cotton Mill.—J. H. Moon will establish the Taylorville Cotton Mills, with fifty looms.*

Waynesville—Tannery.—E. F. Sharp and G. G. Byron, of Chicago, Ill., have purchased fifteen acres of land at Waynesville and will erect on same a large steam tannery; main building to be three stories high, 200x300 feet, and have daily capacity of 300 finished hides. About 100 men will be employed at the start. Messrs. Sharp and Byron will both locate in Waynesville permanently.

SOUTH CAROLINA.

Beaufort—Water Works.—George Holmes, F. W. Schepers and C. C. Townsend have incorporated the Beaufort Water Works Co., with a capital stock of \$25,000, and will construct a water system; will bore wells for supply.

Blacksburg—Cotton Mill.—The Cherokee Falls Manufacturing Co. will increase its capital stock from \$150,000 to \$225,000, and add 11,000 spindles and 400 looms.

Charleston—Shoe Factory.—Application has been made for a charter for the Charleston Shoe Manufacturing Co., with a capital stock of \$25,000; incorporators, Andrew Simonds, E. C. Williams, Jr., and James Redding.

Clinton—Cotton Mill.—Charter has been issued to the Clinton Cotton Mills; M. S. Bailey, president, and W. J. Bailey, secretary-treasurer.

Clinton—Telephone Plant.—Charter has been issued to the Clinton Telephone Co., with capital of \$1000. A. B. Blakeley is president; J. A. Bailey, vice-president, and H. L. Horton, secretary-treasurer.

Columbia—Water-power Electric Plant.—The Columbia Water Power Co. has increased its capital stock from \$600,000 to \$1,000,000. This increase is made to provide funds to pay for the large new plant now in course of erection.

Landrum—Cotton Mill.—The Landrum Cotton Mills, with a capital stock of \$100,000, has been incorporated.

Manning—Warehouse Company.—The Clarendon Tobacco Warehouse & Supply Co. has been incorporated, with a capital stock of \$6000, by A. Levi and others.

Sumter—Knitting Mill.—The Sumter Knitting & Cordage Co. has been organized and applied for charter, with capital stock of \$10,000, to erect a knitting plant. L. C. Strauss, J. A. Brogdon, A. C. Phelps and others are interested.

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TENNESSEE.

Chattanooga—Brick Works.—Wells Bros. have completed their brick plant and started operations with fifty men.

Chattanooga—Fibre Mill.—The M. T. Johnson Fibre Co. has been organized by M. T. Johnson and others, and will establish a pulp board and fibre factory. An established factory building has been purchased, which will be remodeled to suit the uses of the new concern, costing about \$10,000.

Cleveland—Woolen Mills.—The Cleveland Woolen Mills will replace at once the machinery of its picker department, destroyed by fire recently.

Knoxville—Gold Mines.—D. D. Nicholas, of Knoxville, is developing on the H. H. Taylor property, noted last week.

Knoxville—Steel Bridge.—The county court has awarded contract to the Youngstown Bridge Co., of Youngstown, Ohio, at \$210,000, for the construction of a steel bridge across the Tennessee river.

Knoxville—Gold Mines.—It is reported that a company of capitalists have organized to develop on an extensive scale gold mines in Monroe county. Walter Scranton can probably give information.

Knoxville—Electric Plant.—The Mutual Light & Power Co., W. G. McAdoo, representative, has secured a contract for lighting North Knoxville, and will erect a plant at once; also a plant for supplying power to the railway.

Knoxville.—Plans are being prepared for a proposed steel walkway 400 to 500 feet long and six to seven feet wide, to cost \$3500. Address George W. Brown, alderman.

Mohawk—Pipe and Tile Works.—The Mohawk Sewer Pipe and Tile Works is putting in new machinery.

TEXAS.

Alvin—Water Works.—J. E. Luhorne, of Austin, is corresponding with William Kelso regarding the construction of a water system in Alvin. Electric-light plant is also talked of.

Austin—Implement Works.—James R. Johnson, M. S. Swaim, W. J. Swaim and E. A. Franklin have incorporated the E. A. Franklin Churn & Implement Co., with a capital stock of \$50,000.

Beach—Saw Mill.—The new mill of Isaac Couston of Conroe, noted last week, is at Beach (not Pocahontas, as stated).

Brownwood—Broom Factory.—Wynn Bros. are equipping a broom factory.

Corsicana—Cotton Mill.—There is a movement afoot for the formation of a company to erect cotton mills. Address the Commercial Club for further information.

Dublin—Mercantile.—Higginbotham Bros. have incorporated, with a capital stock of \$100,000.

Fort Worth—Commission Company.—The Standard Live Stock Commission Co. has been incorporated, with a capital stock of \$100,000.

Galveston—Sewerage System.—George E. Waring, of New York city, completed preliminary examinations of the city's proposed sewerage system, and will at once prepare a report for the sewerage committee. Address the mayor.

Houston—Publishing Company.—C. C. Waller and others have incorporated the Texas Publishing Co., with a capital stock of \$10,000.

Houston—Publishing Company.—D. D. Bryan and others have incorporated the Age Publishing Co., with a capital stock of \$10,000.

Mexia—Publishing Company.—The Courier Printing Co. has been incorporated by A. M. Kennedy and others, with a capital of \$50,000.

Mt. Pleasant—Paint Factory.—A company is reported as erecting a paint factory.

San Antonio—College.—The San Antonio Female College has been incorporated, with capital stock of \$60,000, by George W. Russ and others.

VIRGINIA.

Ettrick—Cotton Mill.—The Ettrick Cotton Manufacturing Co. is adding new machinery to its mill.

Lynchburg—Tobacco Works.—The Dental Snuff Co. has obtained charter, with privilege of manufacturing all kinds of tobacco; capital stock \$500,000. This is not a new concern.

Matoaca—Cotton Mill.—The Matoaca Cotton Manufacturing Co. is adding new machinery to its plant.

Orange—Street Improvements.—The city will expend \$3000 for street improvements. Address the mayor.

Richmond—Manufacturing, etc.—The Com-

mercial, Industrial & Manufacturing Co. has been incorporated, with capital stock of \$5000, to conduct a department store; F. E. Ford (colored), manager.

Richmond—Gold Deposits.—It is reported that Lawrence Perry has found gold deposits on his leased property, sixty miles from Richmond.

Richmond—Machine Works.—The R. W. Coffee Machine Works has been incorporated, with a capital stock of \$25,000. R. W. Coffee is president; purpose, to manufacture machinery; company has an established plant, but expects to add more machine tools in the near future.

Richmond—Woodworking Plant.—The Richmond Woodworking Co. has been incorporated, with a capital stock of \$50,000; George Pope, of Brooklyn, N. Y., president, and George L. Blodgood, of Richmond, secretary; will make wire and butter dishes, trunks, etc. This company has an established plant.

Salem—Water Supply.—The city will drill an artesian well for water supply. Address the mayor.

WEST VIRGINIA.

Charleston—Oil Wells.—Richard S. Tuthill and others have incorporated the Richland Oil Co. to drill for oil.

Clarksburg—Brick Company.—W. B. Maxwell, B. H. Fleming and others have incorporated the High Grade Shade Brick Co.

Shepherdstown—Cycle-parts Factory.—Specialty Manufacturing Co. has established a plant for making bicycle parts.

Sistersville—Soda-water Factory.—Harry Hollis will establish a factory for soda waters.

Wheeling—Pottery.—The Wheeling Pottery is erecting a new kiln, which will increase its capacity 25 per cent. in one department; C. W. Franzheim, manager.

BURNED.

Atlanta, Ga.—The Markham House; loss about \$75,000.

Baltimore, Md.—The Baltimore Bolt and Iron Works damaged to extent of \$20,000.

Camden, S. C.—The saw mill of B. G. Team, at West Wateree, near Camden.

Capron, Va.—G. W. Truett & Co.'s saw mill and box factory; loss \$6000.

Elkins, W. Va.—Thomas Leonard's lumber plant; loss \$6000.

Greenville, N. C.—The Greenville Lumber Co.'s plant; loss \$50,000.

Kanawha City, W. Va.—Neale Bros.' saw mill; loss \$500.

Montvale, Tenn.—The Montvale Springs Hotel; loss about \$60,000.

Nocona, Texas.—The Nocona Flour Mills; loss \$13,000.

Sparrow's Point, Md.—The Williamsport & Chesapeake Lumber Co.'s planing mill; loss \$15,000.

Swann Station, N. C.—W. H. Sikes's saw and planing mills; loss \$8000.

BUILDING NOTES.

Abbeville, Ga.—Hotel.—The La Clede Springs Hotel has been let to contract at about \$70,000, as was recently stated. The building is to be four stories high, containing 120 rooms, 100 guestrooms, twelve bathrooms, passenger elevators, electric bells and lights, heated by steam and other modern equipment; Mrs. J. M. Morris, owner.

Alexandria, Va.—Dwelling.—Joseph Moore has let contract to James A. Stoutsburg for the erection of a dwelling.

Alvin, Texas—Jail.—The county commissioners have decided to erect a jail, to cost about \$28,000.

Atlanta, Ga.—Temple.—The Atlanta Masonic Temple Co. contemplates the erection of a 10-story steel structure, at an estimated cost of \$200,000. Bruce & Morgan have prepared plans.

Augusta, Ga.—Business Building.—E. F. Verderay will erect a three-story brick business building. Fergus McKain has prepared plans.

Avon Park, Fla.—School.—The town may incorporate and erect a school building. The Florida Development Co. can probably inform.

Baltimore, Md.—Dwelling.—Nelson Perin will erect a costly dwelling.

Baltimore, Md.—Dwellings.—Permits to build have been issued to O. P. Roberts for six two-story dwellings, to John Jacob for

three two-story dwellings, and to Jacob Aull for three two-story dwellings.

Barnesville, Ga.—Armory, etc.—Contract for the erection of the Gordon Institute chapel and armory has been let to A. O. Bennett, of Griffin.

Benettsville, S. C.—Hotel.—C. S. McCall has not decided to build the hotel noted last week. It is only in possible contemplation.

Charlottesville, Va.—Hotel.—The hotel of M. S. Gleason, noted last week, will be modern, with forty bedrooms, passenger and freight elevators, hot-water heat, etc. Contracts for excavation, iron and steel and carpenter work have been let, and plans for the other work are now out; W. T. Vandegrift, architect.

Chattanooga, Tenn.—Hall.—A petition is being circulated to ask the city to erect a convention hall. Address the mayor.

Crowley, La.—Warehouse.—The Crowley Rice Milling Co. will award contracts May 20 for the erection of a warehouse.

Bluefield, W. Va.—Opera-house.—Reports are current of Baltimore (Md.) capitalists contemplating the erection of a \$12,000 opera-house in Bluefield. A. P. Gladden can possibly give information.

Ceredo, W. Va.—Courthouse.—The county court is arranging for the re-erection of the courthouse recently burned.

Fairfax, Mo.—School.—Contracts will be awarded May 21 for the erection of a \$10,000 schoolhouse, after plans by W. F. Schrage, of Kansas City. Address L. Z. Lotspeich, secretary school board.

Hallettsville, Texas.—Opera-house.—Kahn & Stanzel have let contract to McKnight Bros. for the erection of an opera-house, to cost \$15,000.

Hartsville, S. C.—Warehouse.—The Farmers' Warehouse Co., J. S. White, has been organized to build a warehouse.

Jackson, Miss.—Church.—It is reported that St. Peter's R. C. Church will probably erect a \$20,000 church building.

Jacksonville, Fla.—Armory.—Sealed bids will be opened June 10 for the erection of an armory after plans by A. S. Elchberg, 3 Bull street, Savannah, Ga., where they can be seen; also at commissioners' office, Jacksonville. Address W. F. Coachman.

Jacksonville, Fla.—Depot.—The Jacksonville Terminal Co. will soon advertise for bids on the erection of the proposed union depot; to be of brick and granite, 361x131 feet. Address D. E. Maxwell, general manager Florida Central & Peninsular Railroad, Jacksonville.

Laredo, Texas—Schools and Jail.—The city council is considering ordinances authorizing \$20,000 for schools and \$10,000 for a city prison. Address the mayor.

Latta, S. C.—Warehouse.—The Latta Warehouse Co. will commence work at once on its warehouse.

Louisville, Ky.—Clubhouse.—The Belmont Club will erect a building, to cost \$20,000.

Louisville, Ky.—Church.—The Broadway Methodist Church South will erect a new edifice, at a cost of \$40,000. Address W. C. Kendrick, treasurer of building committee.

Lufkin, Ga.—Stores.—J. D. Richardson, E. L. Carter and E. P. Earson will each erect brick stores.

Memphis, Tenn.—Market-house.—The city has had plans prepared by Alsop & Johnson and other firms for proposed \$60,000 market-house. Address H. L. Brinkley for further particulars.

Montgomery City, Mo.—School.—The city will erect a schoolhouse, at a cost of about \$10,000. Address the mayor.

New Orleans, La.—Dwelling.—Alfred Hill will erect a two-story dwelling, to cost \$16,000.

Norfolk, Va.—Hotel.—A report is current that Sylvanus Stokes, of Baltimore, Md., will erect a hotel in Norfolk.

Opelika, Ala.—Courthouse.—Plans by Andrew J. Bryan & Co., of Atlanta, Ga., have been accepted for the new \$30,000 courthouse. Contract for its erection has been awarded to Andrews & Stevens, of Opelika.

Orange, Texas—Convent.—A convent school will be erected. Rev. M. P. McSorley can be addressed.

Paducah, Ky.—Business Building.—Joseph E. Potter contemplates the erection of a modern business building.

Palmetto, Fla.—Opera-house.—Contract has been let by Dr. L. R. Warren for erection of an opera-house.

Pocahontas, Va.—Church.—A. P. Gladden, of Bluefield, W. Va., has prepared plans for the R. C. Church for Pocahontas, and Shockley & Gladden, of Bluefield, have received the building contract.

Raleigh, N. C.—Church.—The First Pres-

byterian Church is considering plans for a new edifice. Charles E. Cassell, 404 Law Building, Baltimore, Md., is now preparing plans.

Princess Anne, Md.—Hall.—A company has been formed, with H. F. Lankford, president, to erect a hall.

Washington, D. C.—Hall.—Cornelius Gilispie, president of Gonzaga College, has obtained permit for the erection of a hall, one-story, 65x100 feet, to cost \$25,000.

Washington, D. C.—Dwellings.—W. H. Haller will erect eleven brick dwellings, to cost \$27,500; Franz Schweltzer, a store and dwelling, to cost \$7400, and Albert Carr, a store and dwelling, to cost \$5200.

Washington, D. C.—Dwellings.—L. H. Schneidler has recently had plans prepared by Francis & Schneidler for the erection of a four-story apartment house, 85x20 feet; steam heat, etc.

Weldon, N. C.—Bank Building.—The new building for the Bank of Weldon has been contracted for by D. A. Garber.

Wilmington, N. C.—Lodge.—The Oakdale Cemetery Co. will expend about \$5000 in erecting a new lodge.

RAILROAD CONSTRUCTION.

Steam Railways.

Athens, Ga.—It is stated that the Northeastern Railroad will be extended from Lula to Chattanooga by the syndicate for which E. A. Richards & Co., of Atlanta, are acting. The extension would be about 100 miles.

Atlanta, Ga.—Newman Erb is authority for the statement that the Marietta & North Georgia will be extended from Marietta to Atlanta. J. B. Glover, at Marietta, is receiver.

Baltimore, Md.—It is reported that the Pennsylvania Company has made an offer to operate the combined York Southern and the Baltimore & Lehigh roads, and that the latter may be changed to standard gage. It is forty three miles long. J. Wilson Brown is president.

Baltimore, Md.—It is reported that the Baltimore & Ohio will relay about twenty-five miles of its Washington line with 85 pound steel rails. William T. Manning, at Baltimore, is chief engineer.

Barnwell, S. C.—W. B. Strang, Jr., & Co., of 15 Wall street, New York, general contractors for the Greenwood, Anderson & Western, inform the Manufacturers' Record that eighteen miles will be at once constructed. Sub-contracts for this have been let.

Belington, W. Va.—It is stated that the Belington & Little Laurel Company may build a line from Monroe, W. Va., into the Laurel Creek valley coalfields. F. P. Reese, at Belington, is superintendent. The United States Coal & Iron Co. is promoting the enterprise.

Charlotte, N. C.—It is understood that the Seaboard Air Line has decided to build a branch several miles long to mills in the suburbs. G. W. Gwathmey, at Portsmouth, Va., is engineer.

Folkston, Ga.—Prest. Henry R. Jackson, of the Suwanee Canal Co., it is reported, has purchased the rails for the extension to the Satilla river, twenty-two miles. It is fifty miles long. J. Waldo is general manager.

Galveston, Texas.—The Galveston, La Porte & Houston has been completed from Galveston to Houston, and trains are now in regular operation. It is fifty miles long. J. Waldo is general manager.

Hamburg, Ark.—The road being built through Ashley county from the Mississippi river to Hamburg is partly completed. The Sunnyside Company, of which Austin Corbin is president, is building the road. Its address is 192 Broadway, New York.

Hampton, S. C.—A section of the Hampton & Branchville road is being relaid with steel rails. C. W. Mauldin is superintendent.

Hinton, W. Va.—An official of the Hinton, New River & Western Company advises the Manufacturers' Record that it proposes to build most of its line this year. James T. McCreevy, at Hinton, is president.

Houston, Texas.—The Houston, East & West Texas has received twenty-six miles of rails for the section between the Neches river and Lufkin, Texas. It is stated that the company will place fifty miles of new rails on the line. T. Cronin is superintendent at Houston.

Montgomery, Ala.—It is stated that the Montgomery, Tuscaloosa & St. Louis own

ers are negotiating for terminal property for a depot, and that they may complete the road between Montgomery and Tuscaloosa within the next year. T. W. Woolfolk is interested in the line.

Oxford, N. C.—The Oxford Coast Line road is nearly completed from Oxford to a connection with the Durham & Northern, five miles from Oxford.

Piedmont, W. Va.—Seey, C. M. Hendley, of the West Virginia Central & Pittsburg, advises the Manufacturers' Record that surveys have been made looking to a connection of this road with the Chesapeake & Ohio system. Nothing further has so far been done.

Shreveport, La.—The Kansas City, Pittsburg & Gulf Company has begun laying track on the division south of Shreveport, La. G. Knobel is division engineer.

Southport, N. C.—J. E. Challenger, president of the Philadelphia Car Service Association; S. W. Gromme, Carl Grubman and Thomas Bohannon, all of Philadelphia, have been at Southport promoting the Carolina, Tennessee & Ohio road, which it is proposed to build between Southport and Wilmington. Frank H. Blodgett, of Williston, Ohio, is also interested.

Spartanburg, S. C.—Prest. Arch B. Calvert, of the Spartanburg & Henrietta road, advises the Manufacturers' Record that the company expects to begin construction in a few weeks, and is ready to receive bids from contractors. The road is to be standard gage and twenty-four miles long.

Waco, Texas.—General Manager Charles Hamilton, of the Texas Central, confirms the statement that surveys are now being made for a 50-mile extension of the road west from Albany, Texas. He states that the extension may be built within a year.

Waxahachie, Texas.—Business men of Waxahachie are considering an offer of Prest. E. H. R. Green, of the Texas Midland, to extend to Waxahachie from Ennis. The distance is about ten miles. Mr. Green's address is Terrell, Texas.

Winchester, Ky.—It is announced that the road being promoted by B. R. Hutchcraft, of Winchester, will be twelve miles long. It will run up Red Bird Creek valley and will connect with the Louisville & Nashville.

Electric Railways.

Baltimore, Md.—The South Shore electric line, which is two and one-half miles long, running into the southern suburbs, is completed. It forms a part of the Baltimore Traction Co.'s system.

Baltimore, Md.—The Baltimore Traction Co. has obtained permission to change its Druid Hill avenue cable line into a trolley system. W. A. House, Druid Hill avenue, is general manager.

Baltimore, Md.—The Central Passenger Railway Co. has obtained the right from the city council committee to extend its line on Lexington, Washington, Preston and other streets in the eastern part of the city, about seventeen miles in all. George Blakiston is president.

Baltimore, Md.—The Gwynn's Falls Railway Co. is about to begin work on its proposed trolley line from Gwynn's falls, in the western suburbs, along the Windsor Mill road. A steel bridge seventy feet high will be needed. Joseph B. Seth, 100 East Lexington street, is president. Joseph P. Smith, East Fayette street, is one of the directors.

Baltimore, Md.—The Metropolitan Railway Co. has asked for a franchise to build an underground-conduit system from the eastern suburbs to Fulton avenue.

Pine Bluff, Ark.—S. W. Fordyce, of St. Louis, and Prest. Thomas West, of the St. Louis Trust Company, have made a proposition to the people of Pine Bluff to change the street railway system into a trolley line.

A very good idea of the progress which has been made in small machinery is given in the catalogue which is issued by the Stow Manufacturing Co., of Binghamton, N. Y., which is noted as the maker of the Stow flexible shaft. Although a comparatively recent invention, this shaft has secured a remarkable reputation throughout the country on account of the effectiveness of its work and the great variety of operations in which it can be used. Whenever it becomes desirable to take the tool to the work, instead of the work to the tool, the flexible shaft is almost indispensable. It drills, taps, reams, bores, grinds and polishes with equal facility. It is very popular with bicycle manufacturers, as well as carriage-makers and woodworkers generally. By the use of electric motors the power for this shaft can be developed in a very small compass.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Bagging Machinery.—John L. Armitage, Rockingham, N. C., wants to buy a machine for rolling and measuring bagging; also machine for sewing bags.

Baling Press.—The Dawson Oil Co., Dawson, Ga., wants to buy a press for baling cottonseed hulls.

Boiler and Engine.—See "Saw Mill."

Boiler and Engine.—See "Cotton Mill."

Boilers.—See "Tanks."

Bridge.—The Gwynn Falls Railway Co., Baltimore, Md., will construct a steel viaduct seventy feet high; Joseph B. Seth, president, 100 East Lexington street.

Bridges.—E. R. Malone, Geneva, Ala., wants to correspond with bridge builders regarding constructing several bridges of iron.

Bridges.—The county commissioners, Charlotte, N. C., will award contracts May 25 for the construction of two steel bridges. Address J. R. Erwin, chairman, and C. A. Spratt, engineer.

Corn Mill.—See "Saw Mill."

Cotton Mill.—B. W. Townsend, Red Bank, S. C., wants estimates on machinery equipment for a 5000-spindle mill.

Cotton Mill.—The O. A. Robbins Co., Charlotte, N. C., will buy engine, boiler and cotton machinery for a 2000-spindle plant.

Cotton Mill.—Wanted, information and estimates on machinery for making towels; give dealer's price for export. Address "Cardwell," care of Manufacturers' Record.

Cotton Mill.—J. H. Moore, Taylorsville, N. C., wants complete outfit for a 50-loom mill.

Electric-light Plant.—The city of Dawson, Ga., will arrange for the erection of an electric-light plant of fifty 2000 candle-power are and 500 sixteen candle-power incandescent lights. Address the mayor.

Engine.—Wanted, a second-hand hot-air engine, small size. Address H 570, Sun Office, Baltimore, Md.

Engine, Boiler and Woodworking Machinery.—M. M. Malcolm, Fayetteville, W. Va., wants to buy a fifteen to twenty-five horsepower engine and boiler, with saw-mill outfit complete, including 24-inch planer and matcher; second-hand guaranteed equipment will answer.

Fire-department Supplies.—Fred. J. Clark, secretary, Fitzgerald, Ga., wants to correspond with manufacturers and dealers in fire-protection supplies; wants to buy for town that has no water supply sufficient to use engines.

Furniture Machinery.—The Marlon Furniture Co., Marlon, S. C., wants to buy equipment for the manufacture of furniture.

Grinding Mill.—See "Paint Mill."

Hydraulic Press.—Sealed bids will be received until May 28 for one hydraulic press for pressing plate printed paper, of about the following capacity: Size of platen, 38x46 or 48 inches; movement of ram not less than eighteen inches; space between head and platen, when opened, forty-eight inches; working pressure, 600 tons; to be equipped with pressure gage, operating valve, power pump of moderate or small delivery, with automatic safety appliances. For further particulars address W. W. Duffield, superintendent U. S. Coast and Geodetic Survey, Washington, D. C.

Machine Tools.—Dupes & Adams, Knoxville, Tenn., may possibly buy an iron planer, a large drill press and an 18-inch shaper.

Machine Tools.—H. Doukle, Townsend Press, Mobile, Ala., wants a small shear to cut cotton ties at bench; second-hand in good condition will answer.

Naphtha Launch.—Wanted, small naphtha launch. Address "Launch" 147, Sun Office, Baltimore, Md.

Paint Mill.—The Greer Machinery Co.,

Knoxville, Tenn., wants to buy a mill for grinding paint in oil, turpentine, etc.

Pumping Engines.—Bids will be received until September 4 for constructing and erecting two pumping engines, estimated to cost \$225,000; Robert E. McMath, president water commissioners, St. Louis, Mo.

Railway Equipment.—The Central Railway Co., Baltimore, Md., will order forty additional cars (street electrical).

Railway Equipment.—T. J. Shickel, Salem, Va., wants to obtain estimates on railway equipment, second-hand, for narrow-gage railway, rails, locomotives, cars, etc.

Railway Equipment.—The Virginia-Carolina Chemical Co., Richmond, Va., wants to buy five to seven tank cars suitable for transporting sulphuric acid; second-hand cars in good condition preferred. Address with full particulars and cash price.

Railway Equipment.—The Spartanburg & Henrietta Railroad will probably be in the market for rails (twenty-four miles of road). An opportunity will be offered to contractors to bid on the entire work. Address Arch B. Calvert, Spartanburg, S. C.

Saw Mill.—Thomas Muney, Pilgrim, Ky., wants to buy a portable saw mill, with corn mill attached. (By error last week, W. A. Harris, of White Post, was given as wanting this plant.)

Sewing Machine.—See "Bagging Machinery."

Tank Cars.—See "Railway Equipment."

Tanks (Boiler).—Wanted, four copper jacket boilers, in good order, second-hand, fifty to sixty gallons, to be heated by steam. Address G 828, Sun Office, Baltimore, Md.

Tannery.—The Frank Jarrett Company, Hillsboro, N. C., wants to buy equipment for the manufacture of hides, etc.; tannery to be operated by water-power, and wheels will be wanted.

Telephone Equipment.—The Loudoun County Telephone Co., Leesburg, Va., wants to know if the metallic circuit over the route is in accordance with modern work; also whether the proper wire is being used. The company was to open bids on May 16 for the construction of line, except instruments; wire to be the best Bessemer steel galvanized No. 10, strung to make a metallic circuit over the route. Address John H. Nelson, secretary, Leesburg, Va.

Telephone Equipment.—The Sandersville Telephone Exchange, Louis Cohen, president, Sandersville, Ga., wants to buy about seventy-five 'phones, equipment for extending lines, etc.

Towel Machinery.—See "Cotton Mill."

Water-wheels.—See "Tannery."

Woodworking Machinery.—W. B. W. Howe, Flat Rock, N. C., wants catalogues of machinery for spokes, handles, etc.

Zinc.—Wanted, five to ten tons of new scrap or old zinc; will exchange for new at market prices or pay cash. State price wanted, quantity, quality and present location. Address S 153, Sun Office, Baltimore, Md.

TRADE NOTES.

The Davis & Egan Machine Tool Co., of Cincinnati, Ohio, has been awarded the contract for furnishing the United States Arsenal, at Rock Island, Ill., three 16x6 tool-room lathes.

F. M. Pease, 355 Dearborn street, Chicago, announces that he has 3350 tons of steel relaying rails for sale. The attention of railroad companies and contractors is called to this matter, as it is to their advantage.

The Goubeck Manufacturing Co., of New York, announces that it has opened a Western office at 1403 Monadnock Building, Chicago, Ill., which will be in charge of Mr. E. Webster, formerly connected with the Stillwell-Bierce & Smith-Vaile Co.

The Southern Electric Manufacturing & Supply Co., of New Orleans, recently secured contract for 500-light incandescent plant to light the office and building of A. Baldwin & Co., New Orleans, La. The dynamo is to be the latest type General Electric multipolar generator.

The Akron Belting Co., Akron, Ohio, has recently closed contracts for belting with eight new cotton mills in the South, ranging from 10,000 to 40,000 spindles each. This company reports that its business is several thousand dollars ahead of the same period in 1895, which was the largest in its history. Recently it has put on the market an oil filter and purifier, which has a number of valuable features and is meeting with notable success. The proposition of the com-

pany to send it on thirty days' trial to responsible parties evidences faith in its merits. This concern is a wide-awake one, and lately issued an instructive circular, showing up-to-date methods for the engine-room.

Among the recent orders received by the E. Van Winkle Gin and Machine Works, of Atlanta, Ga., is for an oil mill and a large ginnery, with machinery complete, for handling cotton from wagons to presses. It is to be built at Gabbett Station, Ga., by F. M. Potts and associates. This company has been very fortunate in securing a number of large contracts recently from different sections of the South.

Mr. John Sanderson, of Middlesboro, Ky., has been honored by being elected a fellow of the Institute of Chemistry of Great Britain and Ireland, one of the most noted organizations of chemists in the world. Mr. Sanderson is a specialist in analytical chemistry and as an assayer, and his services will be very valuable in determining the value of the various mineral deposits in Kentucky and vicinity.

The coupon-book system has proven a reliable method of handling credit trade, and serves to eliminate many of the objections which such business develops. The success of the Allison system indicates the perfection which it has reached. Many concerns now recognize this system as the standard, and the Allison Coupon Co., Indianapolis, Ind., which is introducing it, is kept busy filling the increasing demand.

Mr. William G. Shepherd, it is announced, has taken a large interest in the Davis-Farrar Company, of Erie, Pa., and has been elected vice-president and general manager of the company. As is well known, the Davis-Farrar Company makes a specialty of marine engines and centrifugal pumping machinery, and has an excellent reputation for the work which it turns out. It will also make a specialty of the patent high speed automatic engines, which are the invention of Mr. Shepherd.

Additional evidence of a healthy advance in business is reflected by the experience of the Triumph Electric Co., Cincinnati, Ohio, whose trade shows a very encouraging increase over the same period of last year. Among some of the more important deals closed by this concern in April were the following: Caladonia Electric Light & Power Co., Owosso, Mich., one 150-kilowatt 550-volt generator, direct connected to Fischer engine; Owosso & Corunna Traction Co., Owosso, Mich., two 65-kilowatt 550-volt generators, belted; Lane & Bodley Co., Cincinnati, Ohio, one 100-kilowatt belted generator; Studebaker Bros. Manufacturing Co., South Bend, Ind., one 65-kilowatt belted generator; Hot Springs Hotel Co., Hot Springs, Va., one 55-kilowatt generator, direct connected to Buckeye engine; one 30-kilowatt belted generator; Krippendorff, Dittmann & Co., Cincinnati, Ohio, two 65-kilowatt generators, direct connected to Williams engine; J. M. High & Co., Atlanta, Ga., one 45-kilowatt belted generator; U. S. Snagboat E. A. Woodruff, Cincinnati, Ohio, one 10-kilowatt generator, direct connected to vertical engine; A. H. Ely, New York City, one 80-kilowatt type W generator, direct connected to Ames engine; Sol. Sayles, New York City, one 25-kilowatt generator, direct connected to Woodbury engine; Nordberg Manufacturing Co., Milwaukee, Wis., one 30-kilowatt generator, belted; John B. Mallers, Chicago, Ill., one 15-kilowatt generator, direct connected to Fischer engine.

TRADE LITERATURE.

The Davis & Egan Machine Tool Co., successor to the Lodge & Davis Machine Tool Co., of Cincinnati, Ohio, is continually getting out new and novel ideas illustrating different features of its business. One of the latest is a hanger, which is in a combination of attractive colors, showing cuts of its standard machinery, with a handsome portrait above. It will doubtless find a conspicuous place in the offices of the company's many customers.

A very attractive catalogue is that which has recently been issued by the Standard Air Brake Co., of 100 Broadway, New York City. The great variety of rolling stock now in use on electric and steam railroad systems throughout the country renders the use of air in stopping the motion of cars not only desirable, but essential. The Standard Company has been fortunate in perfecting an apparatus which is regarded by engineers and railroad men in general as of a high standard. The catalogue which has been issued gives a complete description

of the Standard system, with very handsome illustrations, which explain the arrangement of the mechanism clearly, even to a novice.

A few of the general line of labor-saving appliances which have been perfected in elevating, conveying and power machinery equipment are shown in a catalogue issued by the Jeffrey Manufacturing Co., Columbus, Ohio. Factories or warehouses, where material is handled to any extent, without such equipment, are overlooking an important opportunity for saving. Such machinery is not limited to any special work, but is adaptable to practically all conditions of handling material or finished products. A good idea of the variety of applications in which it is employed is shown by this catalogue.

Among the improvements of the modern house are the blinds. If properly arranged inside they are not only useful, but ornamental. The Monroe Screen Blind & Partition Co., of Lima, Ohio, is now making an improved inside blind, operating upon the sliding principle. In the catalogue which illustrates this device, its points of advantage are very fully described, and the average reader can appreciate at a glance its value as an improvement to the home. The Durstine Sliding Blind Co., of Wooster, Ohio, is a branch of the Monroe Company. The latter also publishes a catalogue, fully illustrating its sliding screens, of which it has made a great success. A number of the largest apartment houses in Chicago and other cities are equipped with this invention.

Iron Markets.

Cincinnati, Ohio, May 16.

Little space will suffice for full particulars of this week's iron market. The previous dullness has been emphasized somewhat during the week under review.

The closing of the contracts by the receivers of the Baltimore & Ohio Railroad for 5000 cars, together with the placing of other smaller orders for cars, imparted welcome stimulus to the trade.

Many prominent manufacturers are figuring on important and extensive projected undertakings, indicating that there are a large number of enterprises in embryo.

Much of the halting is attributed to the miserable condition of the national finances and the prevailing follies and fallacies necessarily protracting the sorry conditions, and also to the uncertainty of the principles, policies and plans of the political parties on the money question. Not only foreign investors, but many at home await the definite decision of the "powers to be" as to whether their capital will be returned to them in hundred-cent dollars or depreciated ones before making their investments. No marked change in present conditions will come probably until the political platforms to be promulgated in June and July shall indicate the sentiment of the people on the question, and no improvement will come until a reliable gold basis is unequivocally assured.

We quote for cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry... —@ \$11.00
Southern coke No. 2 foundry... —@ 10.50
No. 1 soft... —@ 10.50
Lake Superior coke No. 1... —@ 12.00@ 13.00
Lake Superior coke No. 2... —@ 11.50@ 12.00
Hanging Rock charcoal No. 1... —@ 16.00@ 17.00
Tennessee charcoal No. 1... —@ 13.00@ 14.00
Jackson Co. silvery No. 1... —@ 14.00@ 14.50
Southern coke, gray forge... —@ 9.50
Southern coke, mottled... —@ 9.50
Standard Alabama car-wheel... —@ 15.00@ 16.00
Tennessee car-wheel... —@ 14.00@ 15.00
Lake Sup. car-wheel & malle. —@ 15.25@ 15.50

We quote for cash f. o. b. St. Louis:

Southern coke No. 1... —@ \$11.50
Southern coke No. 2... —@ 11.00
Southern coke No. 3... —@ 10.50
Southern gray forge... —@ 10.00
Southern charcoal No. 1... —@ 15.00
Ohio softeners... —@ 16.00
Lake Superior car-wheel... —@ 15.75@ 16.00
Southern car-wheel... —@ 16.25
Genuine Connellsville coke... —@ 5.75
West Virginia coke... —@ 5.00

Chicago, Illinois, May 16.
A general feeling of listlessness has prevailed in the pig iron market during the past week. A few good inquiries have been launched, but buyers seem in no hurry to close.

The general run of business booked was

fair, but the total light as compared with preceding weeks.

We quote f. o. b. Chicago, as follows:

| | |
|----------------------------------|--------------|
| Lake Superior coke No. 1 fdy.. | —@ \$12.00 |
| Lake Superior coke No. 2 fdy.. | —@ 11.50 |
| Lake Sup. charcoal, Nos. 1 to 6. | 13.50@ 14.00 |
| Ohio Scotch No. 1. | 15.00@ 15.50 |
| Jackson Co., O., silvery No. 1. | 14.50@ 16.50 |
| Alabama silvery No. 1. | —@ 12.85 |
| Southern coke No. 1 foundry. | —@ 12.10 |
| Southern coke No. 2. | —@ 11.60 |
| Southern coke No. 3. | —@ 11.10 |
| Southern coke No. 1 S. | —@ 11.60 |
| Southern coke No. 2 S. | —@ 11.35 |
| Mannie. | 13.00@ 13.50 |

Buffalo, N. Y., May 16.

The most noticeable features to report from this district this week are that consumption has unquestionably dropped off, and although few concerns report plenty of work, yet the majority are running light. All are inclined to be hopeful for the future. Sales are few and far between. Both Northern and Southern furnaces are firm at present prices, and not a few state that as soon as they work up last year's ore purchases they will be compelled to do one of three things, viz: obtain higher prices for their product, run at a loss, or go out of blast.

Local furnaces are busy now that the Erie canal has opened. This has reduced stocks, and there is but little, if any, pig iron on hand at the furnaces in this vicinity.

We quote on the cash basis f. o. b. cars Buffalo:

| | |
|--------------------------------|--------------|
| No. 1 foundry strong coke iron | —@ \$13.50 |
| No. 2 foundry strong coke iron | —@ 13.00 |
| Lake Superior ore. | —@ 13.00 |
| Ohio strong softener No. 1. | 13.50@ 14.00 |
| Ohio strong softener No. 2. | 13.00@ 13.50 |
| Jackson county silvery No. 1. | 15.25@ 15.50 |
| Southern soft No. 1. | —@ 12.40 |
| Southern soft No. 2. | —@ 11.90 |
| Hanging Rock charcoal. | —@ 18.00 |
| Lake Superior charcoal. | 14.00@ 14.50 |

New York, N. Y., May 16.

A fair run of orders in small amounts is reported, but the feeling is not hopeful. Makers of soil pipe, plumbers' goods, stoves and machinery say new business is very light and collections poor. All look for a better time further along, but complain that there is nothing in sight. Eastern furnaces are holding on with stubborn tenacity, believing the future will bring a sharp revival of demand and better prices. We hear that the Thomas Iron Co. stopped one furnace this week. Crane has stopped one. The Lehigh Iron Co. at Allentown is reported blowing out. The Glendon, it is said, will stop about the end of May. Pennsylvania and Virginia irons generally are held rather more firmly; little is doing in Alabama irons.

Alleged doubt as to the sound money qualifications of McKinley is disturbing certain papers greatly, and Wall street gives this as a reason for lower values and withdrawals of English support. Money is working easier, in spite of heavy withdrawals of gold for export.

We quote for cash f. o. b. docks:

| | |
|--|--------------|
| No. 1 X standard Southern. | —@ \$12.00 |
| No. 1 X choice Virginia, such as Shenandoah. | —@ 12.75 |
| No. 2 X Alabama or Virginia. | —@ 11.50 |
| No. 1 soft Ala. or Virginia. | —@ 11.50 |
| No. 1 X lake ore coke iron. | —@ 14.50 |
| No. 2 X lake ore coke iron. | —@ 14.00 |
| Lake Superior charcoal. | 16.25@ 16.50 |

We quote for cash f. o. b. Philadelphia docks:

| | |
|----------------------------|--------------|
| No. 1 X standard Alabama. | —@ \$12.00 |
| No. 2 X standard Alabama. | —@ 11.50 |
| No. 1 X standard Virginia. | —@ 12.50 |
| No. 2 X standard Virginia. | —@ 12.25 |
| No. 1 X lake ore iron. | —@ 14.50 |
| No. 2 X lake ore iron. | —@ 14.00 |
| Lake Superior charcoal. | 16.15@ 16.50 |
| Standard Georgia charcoal. | 16.75@ 17.50 |

ROGERS, BROWN & CO.

Jacob Greil has been re-elected president of the Commercial and Industrial Association at Montgomery, Ala., and E. B. Joseph, L. S. Wilcox and B. J. Baldwin, vice-presidents.

The *Southern States* magazine is read by thousands of farmers, fruit-growers, stock-raisers and business men in all the North, West and Northwest, who are looking to the South as a future home and are trying to inform themselves as to the relative advantages of different parts of the South. If you have farm,

garden or orchard property for sale the *Southern States* will put you into communication with buyers. Send for sample copy and rates. Manufacturers' Record Publishing Co., Baltimore, Md.; Wm. H. Edmonds, editor and manager.

Steam Yachts and Marine Machinery

Built by Marine Iron Works, Clybourn and Southport avenues, Chicago. Free illustrated catalogue. Write them for it.

Low Rates to Pittsburgh via B. & O.

The Saengerbund of North America will meet in Pittsburgh, June 8 to 12.

In pursuance of its usual liberal policy the B. & O. R. R. will sell round trip tickets to Pittsburgh from all stations on its lines, for all trains June 6 to 8, valid for return trip until June 13, at one single fare for the round trip.

Tickets will also be on sale at offices of all connecting lines.

For full information address nearest B. & O. agent.

National Prohibition Convention.

Single Fare for the Round Trip to Pittsburgh via Pennsylvania Railroad.

For the National Prohibition Convention, to be held at Pittsburgh, Pa., May 27, 28 and 29, the Pennsylvania Railroad Co. will sell from May 24 to 26, inclusive, excursion tickets from all points on its system to Pittsburgh and return, at a single fare for the round trip (no less rate than twenty-five cents). These tickets will be good for return passage until May 30, inclusive.

Reduced Rates to Pittsburgh.

The Prohibition National Convention will meet in Pittsburgh, May 27 to 29.

For this occasion the B. & O. R. R. Co. will sell Excursion Tickets from all points on its lines for all trains of May 24 to 26, inclusive, valid for return passage until May 30, at one single fare for the round trip.

Tickets will also be sold at coupon stations of all connecting lines.

The B. & O. maintains a double service of fast express trains, with through Pullman Cars attached, between Philadelphia, Baltimore, Washington and Pittsburgh. Be sure your ticket reads via "Picturesque B. & O."

Wise Men

read the advertising pages of the Manufacturers' Record carefully because they are always sure to find something of value; it may be a special sale, or an opportunity for investment, or some new machinery, or some one looking for a location for a factory, or a thousand and one things advertised that may concern you. Every man ought to *study* newspapers, not simply glance over them, but examine in detail the Manufacturers' Record, for instance, and he will be sure to find something that can be made profitable in his business. In its news columns and in its advertising pages he will find matter that may prove invaluable in his business operations.

Deer Park, on the Crest of the Alleghany.

To those contemplating a trip to the mountains in search of health or pleasure, Deer Park, on the crest of the Alleghany Mountains, 3000 feet above sea level, offers such varied attractions as a delightful atmosphere during both day and night, pure water, smooth, winding roads through the mountains and valleys, and the most picturesque scenery in the Alleghany range. The hotel is equipped with all adjuncts conducive to the entertainment, pleasure and comfort of its guests.

There are also a number of furnished cottages with facilities for housekeeping.

The houses and grounds are supplied with absolutely pure water, piped from the celebrated "Boiling Spring," and are lighted with electricity. Deer Park is on the main line of the Baltimore & Ohio Railroad, and has the advantages of its splendid Vestibuled Limited Express trains between the East and West. Season excursion tickets, good for return passage until October 31, will be placed on sale at greatly reduced rates at all principal ticket offices throughout the country.

The season at Deer Park commences June 22, 1896.

For full information as to rates, rooms, etc., address D. C. Jones, Camden Station, Baltimore, Maryland.

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First-Class Steamboat Service Between Detroit and Cleveland, and Cleveland, Put-in-Bay and Toledo.

D. & C. Floating Palaces are now running daily between Detroit and Cleveland, and on May 1 will commence to run daily between Cleveland, Put-in-Bay and Toledo. If you are traveling between the above points, take advantage of a water trip and save money.

Spending your vacation on the Great Lakes. Send for illustrated pamphlet.

Address A. A. Schantz, G. P. A., Detroit, Mich.

Reduced Rates to Washington.

The Young People's Society of Christian Endeavor will hold their Annual Meeting in Washington, D. C., July 7 to 13.

For this occasion the B. & O. R. R. Co.

will sell tickets from all points on its lines

East of the Ohio River to Washington

at one single fare for the round trip, July

6 to 8, inclusive; valid for return passage

until July 15, inclusive, with the privilege

of an additional extension until July

31 by depositing tickets with Joint Agent

at Washington.

Tickets will also be on sale at stations

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| A | Cincinnati Corrugating Co. 28 | G | Maryland Trust Co. 21 | 8 |
| Abbott, B. S. | Cin., Hamilton & Dayton R. R. 34 | Gainesville Iron Works. 38 | Mason Machine Works. 30 | Salmen Brick & Lumber Co. |
| Adams & Price L. & M. Works. 39 | Citizen's Rapid Transit Co. 23 | Gallert, S. 21 | Mason Regulator Co. 37 | Sampson, W. T. |
| Ahrens & Ott Mfg. Co. | Clapp, Geo. M. 23 | Gandy Belting Co. 10 | Maxwell-Mason Tele. Mfg. Co. * | Sanderson, John. |
| Aiken, Wm. Martin. 22 | Clapp & Co. 21 | Gather, D. A. 6 | Maver, Andrew. 21 | Saunders, D. Sons. |
| Akron Belting Co. 10 | Clark Foundry & Machine Co. 39 | Garrett, C. S. & Son. 29 | McClave, Brooks & Co. 16 | Scaife, Wm. B., & Sons. |
| "Alabama" 22 | Clark, Frank I., & Co. 34 | Gash, Andrew. 6 | McCullv. R. 38 | Schieren, Chas. A., & Co. |
| Albro, E. D. Co. 24 | Clark, W. J., & Co. 19 | Gaskins, John. 33 | McGowan, John H., Co. 37 | Schofield, J. S. Sons & Co. |
| Allfree, J. B., Mfg. Co. 9 | Clark, Jeremiah. 30 | Gedge Bros. Iron Roofing Co. 28 | McGregor & Jackson Boiler Wks. 15 | Schwarzenberg Bros. & Co. |
| Allison Coupon Co. 24 | Cleveland, Lorain & Wheeling R. R. 34 | General Electric Co. 41 | McKee, H. L. 22 | Scipie, H. M. |
| Alsing, J. R., Co. 38 | Cohoes Iron Fdy. & Mch. Co. 31 | General Fire Extinguisher Co. 9 | McKenna, David. * | Sebastian-May Co. |
| American Bonding & Trust Co. 21 | Collins, H. E., & Co. 20 | Gilbert, C. M., & Co. 6 | McLanahan & Stone. 39 | Seyfert's, L. F., Sons. |
| American Engine Co. 16 | Columbia Phonograph Co. 35 | Gillette-Herzog Mfg. Co. 29 | Mecklenburg Iron Works. 14 | Shawhan-Thresher Electric Co. |
| American Imp. Anti-Frict. Met. Co. 10 | Columbus Iron Works Co. 17 | Ginsburg, R. L., & Sons. 24 | Melton, A. L. 6 | Sheppard, S. C. |
| American Ship Windlass Co. 33 | Commercial Electric Co. 41 | Glascock & Co. 9 | Merchants & Miners' Transp. Co. 35 | Shultz Belting Co. |
| American Supply Co. 31 | Commercial Wood & Cement Co. 6 | Glen Cove Machine Co., Ltd. 26 | Meyer, Roth & Pastor. 12 | Simmons, W. Seabury. |
| American Well Works. 37 | Comstock, Wm. T. 6 | Glidden Specialty Supply Co. 42 | Meyers, Fred. J., Mfg. Co. 28 | Simpson, J. S. & G. F. |
| American Wood Preserving Co. 20 | Consolidated Roofing Works. 42 | Goetze, Otto. 21 | Michel, P. F. * | Sinclair, S. H., Co. |
| Amen Iron Works. 14 | Contractors' Plant Mfg. Co., Ltd. 4 | Golden's Foundry & Machine Co. 33 | Middendorf, Oliver & Co. 21 | Situations Wanted. |
| Arctic Machine Manufacturing Co. 17 | Cook-Stoddard Mfg. Co. 16 | Goubert Mfg. Co. 17 | Milner & Kettig Co. 33 | Skinner, Chuck Co. |
| Armitage-Herschell Co. * | Cordesman, Meyer & Co. 26 | Grand Rapids Carved Mould'g Co. | Mitlingerode, Wm. 24 | Smethurst & Allen. |
| Armstrong, H. Clay. 22 | Cortright Metal Roofing Co. 28 | Grandy Bros. & Co. 6 | Mitschuk, M., & Co. 24 | Smith, S. Morgan. |
| Armstrong, Robt. S., & Bro. 23 | "Cotton Mill" 22 | Graves Elevator Co. 42 | Morganton Land & Improvem't Co. 22 | Smith & Kirby Co. |
| Asbrand, C. W. 28 | Covert Mfg. Co. 28 | Gregory Co., C. E. 23 | Moore Mfg. & Foundry Co. 42 | Smith's Sons' Gin & Machine Co. |
| Atkins, E. C., & Co. 26 | Crews & Westbrook. 37 | Harrington & King Perforat'g Co. * | Morse, Williams & Co. 42 | Snow Steam Pump Works. |
| Atkins, Jos. L. 9 | Crook, W. A., & Bros. Co. 4 | Harris, N. W., & Co. * | Morton, Reed & Co. 24 | Southeastern Lime & Cement Co. |
| Atlanta Terra Cotta Co. 6 | Crompton Loom Works. * | Harris, Wm. A., Steam Engine Co. 23 | Moyes, L. M. 17 | Southeastern Plaster Co. |
| Austin, F. C., Mfg. Co. 39 | Cronk Hanger Co. * | Harrisburg Fdy. & Mach. Works. 16 | Mueller, H., Mfg. Co. 37 | South Elec. Constr. & Supply Co. |
| B | Culver Mfg. Co. 9 | Hartford Steam Boiler Inspection & Insurance Co. 35 | Mundi & Sons. 39 | Southern Elec. Mfg. & Supply Co. |
| Babcock & Wilcox Co. 15 | Cumberland I. & S. Shafting Co. 33 | Hautbman, Leon F. 6 | Munn, S., Son & Co. 21 | Southern Expanded Metal Co. |
| Bailey-Lebby Co. 38 | Currie, Andrew. 22 | Heffernan, Wm. A. 28 | Munson Bros. 19 | Southern Iron & Equipment Co. |
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| Birmingham Boiler Works. 9 | Dixon, Jos., Crucible Co. 42 | J | Stilwell-Bierce & Smith-Valle Co. 32 | |
| Black Mfg. Co. 41 | Dodson, E. F., & Co. 6 | Jamieson Fire-Resisting Paint Co. 29 | Stirling Company. | |
| Blake, Geo. F., Mfg. Co. 36 | Dolig, Wm. S. 27 | Jeffrey Mfg. Co. 19 | Stow Flexible Shaft Co., Ltd. | |
| Blakeslee Mfg. Co. 36 | Donnelly, J. C. 26 | Jenkins Bros. 42 | Stow Mfg. Co. | |
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| Blue Ridge Cement & Lime Co. 6 | Dorner & Dutton Mfg. Co. 4 | Jewell Belting Co. 11 | Sturtevant, B. F., Co. | |
| Boomer & Boschart Press Co. 21 | Drape, Jas. W., & Co. 22 | Johnson, Edwin Lehman. 8 | Sturtevant Mill Co. | |
| Boston Belting Co. 11 | Draper, Geo., & Sons. 20 | Johnson Tool Co. 17 | Sullivan Machinery Co. | |
| Bradford Mill Co. 12 | Draper Machine Tool Co. 12 | Joseph, Isaac, Iron Co. 24 | Superior Gas Engine Co. | |
| Bradley Pulverizer Co. 38 | Dufur & Co. 28 | Joseph, Jos., & Bros. 24 | | |
| Bradstreet Company. 9 | Dunning, W. D. 21 | J | T | |
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| Brightman Furnace Co. 18 | E | K | | |
| Brooks, T. H., & Co. 19 | Eagle Boiler Works. 15 | Kansas City Wheel Scraper Co. 4 | | |
| Brown Hoisting & Con. Mch. Co. 2 | Easton & Burnham Machine Co. 31 | Kant, N. G. 22 | | |
| Buckeye Iron and Brass Works. 32 | Eccles, S., Jr. * | Keeler, E. Co. 9 | | |
| Buffalo Forge Co. 42 | Edinburg Foundry & Machine Co. 27 | Jenney Gauge Co. 41 | | |
| Bureau of Freight and Transportation, Charleston, S. C. 20 | Eisenbrandt Cycle Co. 34 | Empire Glass & Decoration Co. * | | |
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| Burrowes, E. T., Co. 28 | Emerson Co. 27 | Enterprise Boiler Co. 18 | | |
| Bushnell, G. H., Press Co. 32 | Empire Glass & Decoration Co. * | Entwistle, T. C. * | | |
| Byers, Jno. F., Machine Co. 4 | Esty Sprinkler Co. 19 | Epping, Carpenter & Co., Ltd. 37 | | |
| Byrne, P. 6 | Erwin Hydraulic Machinery Co. 37 | Erwin Hydraulic Machinery Co. 37 | | |
| C | Fay, J. A., & Egan Co. 26 | Esty Sprinkler Co. 19 | | |
| Caldwell, H. W., & Son Co. 2 | Fay Manilla Roofing Co. 28 | Etting, Edward J. 4 | | |
| Cameron, A. S., Steam Pump Wks. 36 | Fernandina Oil & Creosote Works. 24 | F | | |
| Cameron & Barkley Co. 38 | Fifield Tool Co. 12, 23 | Falls Rivet & Machine Co. 33 | | |
| Canton Steel Roofing Co. 29 | Fleming Mfg. Co. 4 | Fay, J. A., & Egan Co. 26 | | |
| Capital Traction Co. 21 | Flush Tank Co. 21 | Fay Manilla Roofing Co. 28 | | |
| Card Electric Co. 41 | Foos Gas Engine Co. 16 | Fay Manilla Roofing Co. 28 | | |
| Cardwell Machine Co. 32 | Foos Mfg. Co. 38 | Fay, W. D., & Co. 16 | | |
| Carlins, Thos., Sons. 23 | Forbes, W. D., & Co. 16 | Fayre & Briggs. * | | |
| Carnell, George. 8 | Force & Briggs. * | F | | |
| Caroline Iron Works. 39 | Forsaith, S. C., Machine Co. 13 | Falls Rivet & Machine Co. 33 | | |
| Carver Cotton Gin Co. 32 | Fort Wayne Electric Corporation. 41 | Fay, J. A., & Egan Co. 26 | | |
| Castner & Curran. 40 | Fort Wayne Safety Valve Works. * | Fay Manilla Roofing Co. 28 | | |
| Cattell, Charles. 6 | Foster, Chas. F. 6 | Fay Manilla Roofing Co. 28 | | |
| Catlin & Browne. 29 | Foster Machine Co. 31 | Fay Manilla Roofing Co. 28 | | |
| C. & B. Line. 35 | Freese, E. M., & Co. 8 | Fay Manilla Roofing Co. 28 | | |
| Channon, H. Co. 11 | French, Saml. H., & Co. 8 | Fayre & Briggs. * | | |
| Chapman, Wm. A., & Co. 6 | Frick Co. 14 | Fayre & Briggs. * | | |
| Chapman Valve Mfg. Co. 9 | Froehling, Dr. Henry. 6 | Fayre & Briggs. * | | |
| Charleston Lead Co. 39 | Fuel Economizer Co. 18 | Fayre & Briggs. * | | |
| Charlotte Machine Co. 31 | Furbush, M. A., & Son Mch. Co. 30 | Fayre & Briggs. * | | |
| Chattanooga Fdy. & Pipe Works. 8 | G | Gainesville Iron Works. 38 | | |
| Chattanooga Machinery Co. 27 | Gandy Belting Co. 10 | Gallert, S. 21 | | |
| Chattanooga Paint Co. 29 | Gather, D. A. 6 | Gandy Belting Co. 10 | | |
| Chattanooga Steel Roofing Co. 28 | Garrett, C. S., & Son. 29 | Gash, Andrew. 6 | | |
| Chesapeake Belting Co. 10 | Gas Engine & Power Co. 33 | Gash, Andrew. 6 | | |
| Chesley Electric Co. 23 | Gedge Bros. Iron Roofing Co. 28 | Gaskins, John. 33 | | |
| Caeser Steel Castings Co. 13 | General Electric Co. 41 | Gaskins, John. 33 | | |
| Christy Fire Clay Co. 6 | General Fire Extinguisher Co. 9 | Gaskins, John. 33 | | |
| Chrome Steel Works. 13 | General Machine Works. 27 | Gaskins, John. 33 | | |
| H | Glatt, S. 21 | Gaskins, John. 33 | | |
| Cincinnati Corrugating Co. 28 | Gandy Belting Co. 10 | Gaskins, John. 33 | | |
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| Clapp & Co. 21 | Gas Engine & Power Co. 33 | Gaskins, John. 33 | | |
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| Clark, Frank I., & Co. 34 | General Electric Co. 41 | Gaskins, John. 33 | | |
| Clark, W. J., & Co. 19 | General Fire Extinguisher Co. 9 | Gaskins, John. 33 | | |
| Clark, Jeremiah. 30 | General Machine Works. 27 | Gaskins, John. 33 | | |
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| Collins, H. E., & Co. 20 | Gather, D. A. 6 | Gaskins, John. 33 | | |
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| Commercial Wood & Cement Co. 6 | General Fire Extinguisher Co. 9 | Gaskins, John. 33 | | |
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| Contractors' Plant Mfg. Co., Ltd. 4 | Glatt, S. 21 | Gaskins, John. 33 | | |
| Consolidated Roofing Works. 42 | Gandy Belting Co. 10 | Gaskins, John. 33 | | |
| Contractors' Plant Mfg. Co., Ltd. 4 | Gather, D. A. 6 | Gaskins, John. 33 | | |
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For plans and estimates apply to

THE BARBER ASPHALT PAVING COMPANY,
 1 Broadway, New York City.

ESTABLISHED 1844.

S. Munn, Son & Co. COTTON
 GRAIN AND PROVISION
 MERCHANTS
 NEW YORK CITY.

Send for circular. Solicit orders for future delivery

CARD TO THE PUBLIC.Office SOUTHERN SAW WORKS:
 ISAAC S. BOYD, F. X. OHLSEN, C. C. CHAFFEE,
 President. Vice-Prest. Sec. & Treas.

ATLANTA, GA., May 14, 1896.

For value received, I hereby transfer to the Southern Saw Works, of Atlanta, Ga., all my right, title and interest in my business, known as "The Atlanta Saw Works," and would respectfully commend my successors to the favorable consideration of my friends, patrons and the trade generally. Given under my hand and seal this 14th day of May, 1896.

 Attest: ATLANTA SAW WORKS,
 EDWARD P. WOOD, J. P. McIVY, Gen. Mgr.
 Notary Public, FULTON COUNTY, GA.
The Johnson Company**FIRST MTGE. 20 YEAR 6 PER CENT.**
SINKING FUND GOLD BONDS.PRINCIPAL AND INTEREST PAYABLE
 IN GOLD.INTEREST PAYABLE
 MARCH 1ST AND SEPTEMBER 1ST.

TOTAL ISSUE, - - \$2,000,000

Of which there remains outstanding \$1,900,000.

The JOHNSON COMPANY ranks among the leading companies in the United States in the production of Bessemer steel. Its works are located at Lorain, Ohio, and Johnstown, Pa. The plant at Lorain is equipped with the latest and most approved machinery, is advantageously located for working Lake Superior ores and Pennsylvania fuel by reason of low cost of transportation of materials and products, and unites all the requisites for economical production.

The following report of Mr. Stephen Little, Expert Accountant, certifies to the cost of the plants and property of the company, and to the profits of its business for the years 1890 to 1895, inclusive, aggregating \$2,899,667.91 (though the results for the year 1894 were materially reduced by reason of removal of part of the Johnstown plant to Lorain), and averaging \$476,611.32 per year for the period named.

 REPORT OF MR. STEPHEN LITTLE.
 New York, April 24th, 1896.

 Walter G. Oakman, Esq., President,
 Guaranty Trust Company of New York,
 New York.

Dear Sir—I have made a careful examination of the books and accounts of The Johnson Company at Lorain, Ohio, and herewith beg to enclose attested statement of their assets and liabilities of date of December 31, 1895. I have examined with care the items of cost of plant

 At Lorain, Ohio..... \$3,397,465.92
 At Johnstown, Pa..... 1,401,615.08

Total..... \$4,799,081.00

and certify that the sum stated (\$4,799,081) is the actual amount expended in the construction of said plants, and that the other items of real estate investments, inventory, and current assets are the actual cost thereof as ascertained from the accounts of the Company.

I have also examined the results of operation of the Company for the past six years, and find that there was earned in these years, respectively, the following profits, Gross and Net, viz.:

| Years. | Gross profits. | Less interest. | Net profits. |
|--------|----------------|----------------|--------------|
| 1890. | \$679,161.21 | \$36,383.25 | \$642,777.96 |
| 1891. | 533,255.82 | 32,926.28 | 500,329.54 |
| 1892. | 668,648.87 | 31,303.31 | 637,345.56 |
| 1893. | 364,520.14 | 29,626.94 | 334,893.20 |
| 1894. | 275,964.29 | 7,963.49 | 268,000.80 |
| 1895. | 578,372.97 | 102,032.12 | 476,340.85 |

Totals.... \$3,699,903.30

\$2,899,667.91

Average per year..... 516,650.55

476,611.32

Yours truly,

(Signed) STEPHEN LITTLE.

\$1,500,000

of the above described bonds will be received by the undersigned at its office (where subscription blanks can be obtained) on or before Wednesday, May 27th, at 3:00 P. M., when books will close. The right is reserved to reduce or reject subscriptions. Allotments will be made on May 29th.

Payment for bonds to be made on June 2d.

The entire issue has been underwritten.

Guaranty Trust Co.
 of New York.

65 CEDAR STREET, N. Y.

New York, May 19th, 1896.

RUST ABSOLUTELY PREVENTED
 ON MACHINERY TOOLS AND METALS.
MANNOCITINREAD OPINIONS OF LEADING AM. MFRS.
 OTTO GOETZE, U.S. AGT. 14th BROAD ST. N.Y.**STEEL and IRON.**

The Undersigned would like to accept offers to act as agent for large and reputable works, for the sale of American PIG IRON, RAILS, WIRE RODS, WIRE NAILS, etc., for the European market. He desires offers for 2000 tons HERMITE PIG IRON, with analysis, to be delivered at Antwerp. Can give first-class American as well as European references.

 CHARLES ZUNZ, 29 Rue Gretry, Brussels, Belgium.
 CAPITAL TRACTION COMPANY,
 Washington, D. C.

 Do You
 Want to
 BUY
 GOLD MINES?
 MICA MINES?
 MONAZITE MINES?
 TIMBER LANDS?
 FARMING LANDS?
 FRUIT-RAISING LANDS?
 WRITE ME.

I have lots of such property for sale ranging from 100 to 1,100 acres in extent.

 S. CALLERT,
 Rutherfordton, N. C.
FOR SALE!
 In the City of Charleston, S. C., Several Fine Residences and Choice Building Lots.

An ideal city for a winter home, full of historic interest, and a climate soft and mild in winter, but not hot enough to be enervating. Cost of living is cheap.

The City of Charleston's water supply is obtained from artesian wells, and it has recently been proven to be a valuable dyspeptic cure when used as drinking water, and a rheumatic cure when bathed in hot.

Also Farming Lands near Charleston, S. C., suitable for market gardening, which is a large and profitable industry in the vicinity of Charleston. For further particulars address

 Exchange Banking & Trust Company,
 CHARLESTON, S. C.

SPECIAL Advertisements OF GENERAL Interest.

OPPORTUNITIES FOR INVESTORS.

ICE PLANT FOR SALE. COMPLETE.

Capacity, 30 tons daily. Must be removed at once. A great bargain for any one who can use such a plant. Easy terms offered. Address **THE PEOPLE'S PURE ICE CO.**
218 North Union Street, Chicago, Ill.

Good Spinning Mill for Cotton Chains

WANTED—Must be Cheap.

2-1/4" and finer. Give full particulars. Would consider proposition from a good town in the South to start mill; market for good supply guaranteed. Address **COTTON MILL**, care Manufacturers' Record.

Sprinkler System Equipment

FOR COTTON MILLS OR OTHER MANUFACTURING PLANTS.

Offering for sale at a low price an Automatic Sprinkler and Hydrant System, fitted for a Cotton Mill under underwriters' requirements. Standard material.

The outfit was shipped to a mill and not being paid for, hence not delivered, this mill never completed, owners are anxious to sell. Anyone interested and who can use it will be furnished a printed schedule, and price made on same; a copy of diagram of system can also be furnished. Enquire of

JOHN G. RUGE,

APALACHICOLA, FLA.

Kaolin and Corundum

FOR SALE.

Large deposit of superior Kaolin near railroad, and the most extensive property of massive Corundum ever found. For particulars write

F. R. HEWITT, Hewitt, Swain County, N. C.

FOR SALE.

6000 ACRES COAL and TIMBER LANDS

located on Big Black Mountain, in Harlan County, Kentucky, and about seven miles from Big Stone Gap, Va. This region is, according to the State reports, the richest coal field in the State, and the coal is very pure and of fine quality. The land is covered by a heavy virgin forest of oak, chestnut, whitewood, ash, etc.

N. G. KANT, Owner,

313 Columbia Street, BROOKLYN, N. Y.

FOR SALE.

The Best Paying Lumber Business in North Carolina.

Satisfactory reasons for selling will be given to interested parties.

Twenty thousand dollars cash required.

Address

PAGE LUMBER CO.

ABERDEEN, N. C.

COAL PROPERTY

FOR SALE,

In Birmingham, Ala., District

Company holds 20-year lease on 1000 acres of fine coal land. First-class domestic coal. Will also make fine coke. Mines already open. Capacity 300 tons per day.

Drift Mining, cheapest in Alabama.
Royal'y 3 cts. per ton,
No Restrictions.

Lease and improvements for sale cheap. A golden opportunity for party with small capital. Investigation solicited.

Good Reason for Selling.

Address quick,

"ALABAMA,"

Care Manufacturers' Record.

PARTNER WANTED

In an Established Wholesale Lumber Business in the South; one who can furnish \$6000 or more capital. Address **PARTNER**, care Manufacturers' Record.

M. R. ANDREW CURRIE, one of Shreveport's (Louisiana) progressive citizens, has secured and is offering for sale very low some of the best lands in and around that city for Factory and other industrial sites. Parties contemplating investment will find it to their interest to immediately open correspondence with him.

CANNING FACTORY

In one of the best fruit sections in the South; capacity 15,000 cans per day.

An Operator or Purchaser Wanted. Plant can be paid for in one year with canned goods. Address

J. W. PRICE,
Sec'y Booneville Business League,
BOONEVILLE, MISS.

A Kentucky FLOUR MILL For Sale.

150 barrels capacity, four Warehouses, Residence, Cooper Shop, Elevator, Office and Railroad Switch. All as good as new and "up to date." Will be sold at a great loss to close a stock company business. Write

B. A. NEALE,
MAYFIELD, KY.

MANUFACTURERS, ATTENTION!

Do you find it difficult to manufacture goods at a profit? Is your competitor selling goods at a price which you cannot meet? Have you thought it questionable policy to continue operations?

What You Need

Is to produce your goods at less cost. Get in on the ground floor, below your competitor.

How To Do It.

Get the best location in the country, close to raw material. Where labor is cheap because it costs less to live. Where three lines of railway compete for your shipments.

LYNCHBURG, VIRGINIA,

Is the place where these conditions are met with. Write for information, it costs nothing to get posted.

LYNCHBURG INDUSTRIAL ASSOC.

FOR SALE.

YELLOW-PINE Timber Lands

Address **W. A. WILCOX**, Darien, Ga.

For Sale or Exchange.

A rare bargain, 34,000 Acres of Choice Yellow Pine Lands in South Georgia, lying alongside the railroad for about eight miles. Will sell or exchange, taking a small portion in cash.

Address promptly **LAND TRUST CO. OF GEORGIA**, Rooms 701, 702, 703 Temple Court Building, Atlanta, Ga.

WESTERN NORTH CAROLINA LANDS

Farms, Timber Lands, Water Powers and choice City Property in the fertile Catawba Valley among the Carolina Mountains. Write for illustrated pamphlet, "Catawba Valley and Highlands."

MORGANTON LAND & IMPROVEMENT COMPANY
MORGANTON, N. C.

For Sale.

A FINE MARBLE QUARRY

Under Full Operation, near

KNOXVILLE, TENNESSEE,
... AT A ...

TREMENDOUS SACRIFICE.

About 50 ACRES of solid MARBLE of a Highly Variegated Quality, susceptible of fine polish and almost free from defects, and eminently suited for Domestic Purposes. There is a branch Railroad direct from the Quarry to the main line near KNOXVILLE, which connects with all points. Everything completely equipped with DRILLING TOOLS, HOISTING APPARATUS, Engine Boiler and every other necessary requirement for carrying on the work successfully. Old age and consequent infirmity on the part of the principal is the only reason for selling, who is prepared to sell at a tremendous sacrifice. Stock or bonds taken in part payment. Further particulars from

JAS. W. BRAPE & CO.
425 Fourth Avenue,
PITTSBURG, PA.

PROPOSALS.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., May 16, 1866.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 5th day of June, 1866, and opened immediately thereafter, for all the labor and materials required for the approaches and coal vault for the U. S. Custom-House and Postoffice building at Newark, N. J., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Custodian at Newark, N. J. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All proposals received after the time stated for opening will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the Approaches, etc., for the U. S. Custom-House and Postoffice building at Newark, N. J.," and addressed to WM. MARTIN AIKEN, Supervising Architect.

returned to them. The check of the successful bidder will be returned to him when his contract shall have been duly entered into and the requisite security furnished. W. T. SAMPSON, Chief of Bureau.

HELP WANTED.

Advertisements under this head are inserted free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

MANUFACTURER desires salesmen, local or traveling, to handle in Southern States a line going to hardware, grocery and house furnishing trade. Exclusive territory and liberal commission. Address, with full references, and stating lines now handled, **AGENCY H. C.**, care Manufacturers' Record.

SITUATIONS WANTED.

Advertisements under this head are inserted free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

WANTED—Position as purchasing Agent in the South for wholesale lumber dealers and mills; twenty years' experience buying and selling lumber. Address **BUYER**, Box No. 236, Reidsville, N. C.

WANTED—Situation as bookkeeper (double entry) by a gentleman of experience and undoubted qualifications; fifty years old; single. Address **C. W. JAMISON**, Point Pleasant, W. Va.

WANTED—Position by a young man, twenty-five, married, seven years' experience, as general freight and passenger agent small Southern line, or traveling freight agent large system; familiar with South and Southeast; best of references. Address **K. L. G.**, care Manufacturers' Record.

A GENERAL superintendent of public works will take an important position anywhere; civil engineer's reference. Address **SUPERINTENDENT**, 531 S. Paca St., Baltimore

WANTED—Position as traveling salesman for engines, boilers, saw mills and woodworking machinery in general. Reliable, sober and a good salesman. Want to travel the South; many years' experience in these lines. Address **G. E.**, Box 257, Athens, Ga.

WANT position as buyer and storekeeper for manufacturing company; ten years' experience as such with lumber company; best of reference. Address **H. H.**, care Manufacturers' Record.

WANTED a situation by an experienced hardware salesman, twenty-seven years old, in a Southern town. The best of reference furnished as to character and ability. Address **C. F. M.**, 1130 Green St., Reading, Pa.

A GENTLEMAN of extensive business experience contemplates several years residence abroad, and will be glad to negotiate with manufacturers desirous of introducing their products in the markets of Great Britain and the Continent. Address "EXPORT," care Manufacturers' Record.

SOAPMAKER, thirty three years of age, fifteen years' experience, wants a position; can take entire charge of factory and build one if necessary; first-class references; can make all kinds of soap. Address **W. A. MOTT**, Practical Soapmaker, Grafton, Mass.

ENGINEER (steam and electrical) wants position as superintendent or manager; large experience and thoroughly competent both as practical mechanic and manager of large forces of men; first-class references. Address **RELIA-BLE**, care Manufacturers' Record.

WANTED—A position as manager of hosiery mill; twenty-five years' practical experience; was sole manager of one of the largest hosiery manufacturers in England for over twenty years; know values of all classes of knitting machines; can take entire management of knitting, bleaching and finishing, and sales if required. Address **HOISIERY MANAGER**, care Mfrs. Record.

WANTED—Position as general manager of small Southern railway or combined log, lumber and traffic road. If you have a property that does not pay now I can make it do so. Address **RAILWAY 40**, care Mfrs. Record.

YOUNG man wishes position in office or as telegraph operator; two years experience in office work; speaks German, Scandinavian and English fluently; good references. Address **H. Y. Z.**, Room No. 5, 291 Ottawa St., Grand Rapids, Mich.

WANTED—Position to equip and manage first-class soap works in the United States or Mexico; speaks Spanish; have long experience as a soap and business man. Address **SOAP HABON**, care Mfrs. Record.

WANTED—Five to Seven TANK CARS Suitable for transportation of Sulphuric Acid. Second-hand cars in good condition preferred.

Parties having such cars for sale will please address **VIRGINIA-CAROLINA CHEMICAL CO.**, Richmond, Va., giving full specifications and naming spot cash price.

FOR SALE.
A Sullivan 1 1/4" Diamond Drill

In first-class condition, having been in use only three months, together with about

1000 FEET OF PIPE.
Will sell at a sacrifice.
Address **H. L. McKEE**,
Gould Building, ATLANTA, GA.